

GUNS DICTIONARY

a guide to firearms, airguns,
inventors, patentees, manufacturers,
distributors, brand names, trademarks
and military-unit markings

JOHN WALTER



K

THE DIRECTORY: K-KYNOID

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k Found on small arms components made in Germany during the Second World War by →Luck & Wagner of Suhl.

K, crowned. A mark found on Norwegian military firearms made by →Kongsberg Våpenfabrikk.

K, encircled. Found on miniature revolvers made in the U.S.A. prior to 1910 by Henry M. →Kolb.

Kaba, KaBa, Ka-Ba, KA-BA Marks associated with a distributor of guns and ammunition, Karl →Bauer of Berlin. Bauer imported 6.35mm →Browning-type pocket pistols from Spain, and sold 'KaBa Special' patterns which seem to have been the work of August →Menz.

Kaba Spezial A Browning-type 6.35mm automatic pistol made in Spain by Francisco →Arizmendi of Eibar for Karl →Bauer of Berlin. Six rounds, striker fired.

Kabakov Yevgeniy Kabakov was co-designer with Irinarkh →Komaritskiy of the sight-hood bayonet issued with the perfected or 1930-pattern Soviet →Mosin Nagant rifle.

Kabler William or Wilhelm Kabler of Sante Fé, Bracken County, Kentucky, traded as a gunmaker in the years immediately before the Civil War.

Kacer Martin V. Kacer of St Louis, Missouri, was the co-grantee with William J. Kriz of U.S. Patents 273288 of 6th March 1883 ('Fire-Arm', application filed on 16th January 1882) and 282328 of 31st July 1883 ('Magazine Fire-Arm', application filed on 7th December 1882). These patents protected, respectively, a break-open double barrel gun and a lever-action magazine rifle with a magazine in the butt-wrist.

Kadet, Kadet Army Gun: see 'King Kadet'.

Kaduna arms factory The principal Nigerian manufacturory, responsible for local adaptations to →Garand and FN →FAL rifles.

Kaestli Gunmaker L. Kaestli of Altstätten, Switzerland, designed a 10.4mm rimfire breech-loading rifle c. 1867. It was operated by lowering an underlever/trigger-guard pivoted on a saddle attached externally to the forend, pulling the breech-block vertically downward. A cam on the rear of the block retracted the striker until it was held on the sear. The striker housing was offset diagonally on the right side of the breech, to allow unobstructed access to the chamber after the mechanism had been cocked.

Kahl Rob. Kahl; Suhl in Thüringen, Germany. Listed in the 1939 directories as a gunsmith. Perhaps a misprint for Karl (see below).

Kalamazoo Air Pistol A spring-and-piston air pistol patented by E.H. →Hawley and made by →Snowe & Cowe of New Haven, Connecticut, USA.

Kalashnikov Mikhail Timofeyevich Kalashnikov was born into a peasant family

in the village of Kurya in 1919. After working as a clerk on the Turkestan–Siberia railway, he was drafted into the army in 1938 and sent to a tank regiment. There he showed his potential as a technician, but was severely wounded in combat near Bryansk in October 1941 and returned to Alma-Ata to convalesce. There he developed the ideas that led first to an unsuccessful submachine-gun and then to the eponymous →*Avtomat*. The success of the AK and its derivatives have not only brought Kalashnikov recognition in the form of countless state prizes, orders, medals and a doctorate of technical sciences, but has also ensured that his name has entered common currency. However, how much of the Kalashnikov story is fact, how much is due to specialist advisers brought in to perfect ideas, and how much is due to the Soviet propaganda machine ('self-taught hero baffles arms experts') remains unclear. Much of the biographical material has been accepted uncritically by Western writers, even by the late Edward Ezell in *The AK-47* (Stackpole Books, 1976)—which nevertheless remains the best source of information.

Kalashnikov assault rifle Adopted in 1949, after trials lasting several years, this has since become one of the world's best-known weapons. Chambered for a 7.62mm short-case →intermediate cartridge inspired by the German 7.9mm Kurz type, the →gas operated 7.62mm AK is locked by rotating lugs on the bolt head clockwise into the receiver walls; feed is from a detachable box magazine ahead of the trigger guard. The hammer-type firing system shows some →Garand features and usually allows single shots or automatic fire.

¶ Marks on the selector lever (q.v.) often help to determine origin, as the Kalashnikov has been made in many countries. The *Avtomat Kalashnikova obr. 1947g* (AK or AK-47) has a slab-sided receiver, a separate butt and pistol grip, a gas tube above the barrel, and a detachable magazine ahead of the trigger guard. Guns dating from 1948–51 were made largely of weldings, stampings and pressed metal components, but a change to receivers machined from forged-steel billets was then made—possibly when production began in Izhevsk—and an extension or shoe was added to the receiver to accept the butt. The butt of the perfected model, made from 1954 onward, attaches directly with a tongue which enters the receiver-body.

¶ Derivatives of the standard fixed-butt Kalashnikov include the Bulgarian *Avtomaticheskiy Karabin Kalashnikova* or AKK and AKK-M1 (with an additional grenade launcher); the Chinese Type 56; the MPi-K or *Maschinenpistolen Kalashnikow*, made in the German Democratic Republic; the Hungarian AK-55 assault rifle (*Automat Kalashnikov 55*); the North Korean Type 58; and the Polish PMK (*Pistolet Maszynowy Kalaszniwow*) and PMK-DGN (grenade-launching). The Romanian forces used an AK copy as the AI, whereas the Yugoslavians had the M64 and M64A (M70) rifles.

¶ The AKS, *Avtomat Kalashnikova skladyvayushimsya prikkladom obr. 1947g* (AKC or AKC-47 in Cyrillic), is essentially similar to the AK, but its pressed-steel butt folds down under the receiver. Folding-stock patterns include the Bulgarian AKKS, the Chinese Type 56-1, the GDR MPi-KS, the Polish PMK-S, and the

Yugoslav M64B and M70A.

¶ The AK was replaced in Soviet service in 1959 by the simplified AKM, *Avtomat Kalashnikova Modernizirovanniya*, with a pressed-steel receiver, a stamped bolt cover with reinforcing ribs, and a rate reducer built into the trigger system. Fixed-butt AKM derivatives include Bulgarian AKKM and AKKMS; post-1963 versions of the Chinese Types 56; the Egyptian Misr; the German Democratic Republic MPi-KM; the Hungarian AKM-63; the Iraqi Tabuk; the North Korean Type 68; the Polish PMKM; and the Romanian AIM. The Yugoslav M70B1 was inspired by the AKM, though details differ and N-suffix guns can accept optical and electro-optical sights. →Zavodi Crvena Zastava also made 7.62×51 M77B1 assault and M77 sniper-rifle Kalashnikovs, in addition to an M76 sniper rifle (*Poluautomatska puška vz. 76*) in 7.62×51 and 7.92×57.

¶ The *Avtomat Kalashnikova Modernizirovanniya, skladyvayushimsya prikkladom* or AKMS (AKMC in Cyrillic), is simply an AKM with a folding metal butt. Among other folding-butt guns were the Bulgarian AKKMS; post-1963 versions of the Chinese Types 56-1 (under-folding butt), 56-2 (side-folding butt with insert) and 56-C Compact (side-folding butt); the GDR MPi KMS (under-folding butt) and MPi-KMS 72 (side-folding butt); the Hungarian AMD-65 submachine-gun; the Polish PMKM-S; and the Yugoslav/Serbian M70AB2.

¶ The Bulgarian Arsenal and the Polish factory in Radom both made semi-automatic sporting/security versions of the Kalashnikov with one-piece wood stocks, the Polish gun being sold commercially as the →Radom Hunter. The Romanian factory in Cugir has made the 7.62×54R FPK, a sniper rifle with a →Dragunov-style skeleton butt and a modified AIM-type Kalashnikov action.

¶ A desire to improve the performance of the AKM, particularly compared with the U.S. 5.56×45 M16 (→ArmaLite) rifle, led to the introduction in 1973 of a 5.45×39 cartridge containing a bullet with a multi-part core. The AK-74 (*Avtomat Kalashnikova obr. 74*), instantly recognisable by a large cylindrical muzzle brake/compensator, appeared in the mid 1970s to replace the AKM. Butts, fore-ends and hand guards, once made of laminated wood or resin-impregnated wood fibres, eventually became injection-moulded plastic. Longitudinal grooves cut into the butt enabled the calibre to be identified by touch. AK-74N (AK-74H in Cyrillic) have sight-mounting brackets on the left side.

¶ The Russian →Izhmash factory has made a 7.62×39 version of the AK-74 designated AK-103. Fixed-butt AK-74 (5.45×39) derivatives include the Model 3, a →bullpup version made in the Armenian Republic; the Bulgarian AKK-74; the Chinese Type 81; the Hungarian NGM-81 and the Romanian AI-74. Essentially similar are fixed-butt AK-74 derivatives chambering the U.S. 5.56×45 cartridge: the Chinese Type 81 and Type 86 →bullpup; the Croatian APS-95; the Hungarian NGM; the Romanian AI-74; and the Yugoslavian/Serbian M80.

¶ Folding-butt derivatives of the 5.45mm AK-74 include the Soviet AKS-74

(*Avtomat Kalashnikova skladyvayushimsya prikkladom obr. 74*, AKC-74 in Cyrillic), with a triangular skeleton butt folding to the left, and the AKS-74N (AKC-74H in Cyrillic) with an optical sight-mount and a folding butt.

¶ The AK 74M (1987–92) had a modified receiver with an integral sight rail, a solid butt that swung to the left, plastic furniture, and an improved muzzlebrake/compensator. It was entered in the →Abakan assault-rifle competition, but the AN-94 →Nikonov was preferred.

¶ Other folding-butt 5.45mm guns include the Bulgarian AKKS-74, the Chinese Type 81-1, the GDR MPi-K 74, the Polish KA-88 Tantal rifle and the Romanian AIS-74. Similar guns chambering the U.S. 5.56×45 cartridge have included the Chinese Type 81-1; the Croatian APS-95; the Polish KA-90 Tantal and KA-96 Beryl; the Romanian AIS-74; the Russian AK-101; and the Yugoslavian/Serbian M80A.

¶ Kalashnikov-type rifles have emanated from many Soviet bloc countries. Manufacturers have included the Soviet small-arms factories in →Tula and →Izhevsk (the latter now trading as →Izhmash A/O); the Bulgarian Arsenal; several factories in the People's Republic of China; Factory No. 54 of →Maadi Military & Civil Industries Company in Egypt; VEB Fahrzeug- und Waffenfabrik Ernst Thälmann in Suhl, in the German Democratic Republic; →Fegyver é Gázkészülékgyár (FÉG) in Budapest; the Iraqi →Mosalsalasi ordnance factory; a state-owned factory in North Korea; →Zakłady Metalowe Łucznik of Radom, Poland; the Romanian ordnance factory in Cugir; and the Yugoslav/Serbian state firearms factory in Kraguyevac (→Zavodi Crvena Zastava or ZCZ).

¶ Finnish →Sako and →Valmet assault rifles, and the Israeli →Galil, though they have developed along independent lines, all derive from the Kalashnikov. The best sources of information about the Kalashnikov include *The AK-47* by Edward C. Ezell (Stackpole Books, 1976), and, for a basic guide, *The Kalashnikov* by John Walter (in the Greenhill Military Manual series, 1999).

Kalashnikov machine-guns There are two basic patterns: the heavy assault rifles ('RPK') derived directly from the *Avtomat Kalashnikova*, and the sustained-fire belt-fed weapons of the PK series. Introduced in 1961 on the basis of the AKM, the RPK light machine-gun or *Ruchnoi Pulemet Kalashnikova* has a long barrel, a drum magazine, a bipod, and a deep-belly butt inspired by the →Degtyarev RPD. Comparable light support weapons have also been made in Hungary, Romania, and the German Democratic Republic (the latter as the LMG-K). The RPKS, *Ruchnoi Pulemet Kalashnikova skladyvayushimsya prikkladom* (РПКС in Cyrillic), had a butt which could be folded to the left. The original 7.62mm RPK was replaced in the mid 1970s by the 5.45mm RPK-74. The RPK-74N (РПК-74Н in Cyrillic) was similar, but had an additional sight-rail on the receiver—now standardised—and the RPKS-74 had a folding butt; RPKS-74N (РПКС-74Н in Cyrillic) had a night-sight rail and a folding butt. Derivatives of the RPK have included the Finnish 7.62×39 or 7.62×51 →Valmet m/78 and a variety of Yugoslavian guns—M65A (fixed barrel) and

M65B (detachable barrel) on the basis of the AK, followed by the M72, M72B1 (fixed butt), M72AB1 (folding butt) and the M77B1, based on an AKM-inspired stamped receiver. The Iraqi →Al Quds light machine-gun is copied from the Yugoslavian M72B1, whilst North Korea once made a TUL-1 by combining the mechanism of the Type 58 (AK) assault rifle and the barrel, bipod and drum magazine of the RPD.

¶ The belt-fed PK, *Pulemet Kalashnikova*, was developed in the late 1950s to compete with the →Nikitin-Sokolov (NS) design. The operating system and rotating-bolt locking mechanism was based on the AK/RPK series, though the design of the receiver was very different. The 7.62×54R cartridges had to be withdrawn from the feed belt before they could be rammed into the chamber, but field trials showed that the PK prototypes performed better than the NS; and the Kalashnikov general-purpose machine gun was adopted in 1961. It was issued with a bipod, as a light machine gun ('PK'), or with a tripod as the *Stankoviy Pulemet Kalashnikova* ('PKS'). The original →Samozhenkov tripod was replaced in 1969 by the smaller →Stepanov pattern. The PKB, developed for use in vehicles, had distinctive spade grips; the PKT, destined for tanks (*tankoviy*) and armoured cars, had a solenoid firing mechanism instead of a mechanical trigger. The original guns were replaced in 1969 by modernised (*modernizirovanniy*) patterns: PKM, PKSM, and their vehicle (PKMB) and tank (PKMT) derivatives. These can all be recognised by greater use of stamped components, and by their fluted barrels.

Kalashnikov selector markings Soviet and Russian guns display AB above OD; Bulgarian guns are similar, excepting for ED in the lower position. German products are marked D over E; Hungarian examples display ∞ over I; Polish products have C above P; Romanian guns have S above FA above FF; and Yugoslavian examples are usually marked U above R above J. Chinese and North Korean Kalashnikovs will usually display ideographs, though some Chinese export examples will be found marked L over D. Among Kalashnikov derivatives, the Finnish guns are customarily marked ••• above •, whereas Israeli Galils and their South African equivalents are marked S over A over R, with the marks repeated on the left side above the pistol grip.

Kalashnikov submachine-guns The AKMS-U, or *Avtomat Kalashnikova Modifikatsionniya skladyvayushimsya prikladom, ustankova obraztsa*, was made in the Tula ordnance factory. Known as AKMC-Y in Cyrillic, it was the successful entrant in a competition to find a port-firing weapon for use in armoured personnel carriers (*samokhodnaya ustankova*); it has also been called AKR or Krinkov, apparently after the leader of the design team. It had a folding butt, a two-position backsight, and a short wooden thumbhole fore-end. The AKS 74U (*Avtomat Kalashnikova skladyvayushimsya prikladom obr. 1974g ustanovka obratsza*), made in →Tula until 1997, was a short-barrelled AK-74 destined for commandos, communication teams, sappers, tank drivers, rocket-launcher crews and special police units. It has a special back sight and a folding open-triangle butt. The AKS-74UN (AKC-74UH in Cyrillic) could accept a passive

infra-red sight, and the AKS-74UB had a semi-integral silencer attached to its shortened barrel. →Izhmash now makes compact AK-74M derivatives as the 5.56mm AK-102, the 7.62mm AK-104 and the 5.45mm AK-105. The AKT was a short-lived experimental adaptation of the Kalashnikov entered by the →Tula factory in the →Abakan trials. Among other submachine-guns based on the Kalashnikov assault rifle are the Polish KA-89 →Onyx, KA-91 →Onyx and KbkA-96 →Mini-Beryl patterns, and the Romanian AIR.

Kalina Josef Kalina of Cleveland, Ohio, designed a ‘Safety Device for Triggers and Hammers of Firearms’, U.S. Patent 660378 of 23rd October 1900 (sought on 30th June 1900).

Kalinowski An *Oberst* (colonel) in the Prussian army, Wilhelm von Kalinowski chaired the committee responsible for the perfection of the 11mm centrefire →Reichspatrone and the extractor of the 1871-type →Mauser rifle.

kam Used by the Skarzynsko Kamienna (Poland) factory of Hugo →Schneider AG (Hasag Eisen- und Metallwerke GmbH) on small-arms ammunition and components made under German control in 1942–5.

Kane Henry Kane, a U.S. government inspector, accepted firearms and ammunition in 1902. Kane’s HK identifier can be distinguished from that of Henry →Kirk by date. See also “U.S. arms inspectors’ marks”.

Kantany Christo W. Kantany, a civilian in the employ of the U.S. government, accepted →Colt-made 5.56mm M16 and M16A1 rifles in 1966–8. They were marked CWK. See also “U.S. arms inspectors’ marks”.

Kapp Alfred Kapp, a farmer of Sisterdale, Texas, Confederate States of America, made about twenty copies of the →Remington-Beals revolver during the Civil War, entirely by hand.

Karcher Arthur Adelbert Karcher (often wrongly listed as ‘Karchin’) of St Joseph, Michigan, designed the →Sterling lever-action BB Gun, protected by U.S. Patent 1101698 (‘Air-Gun’) sought on 6th October 1911 and granted on 30th June 1914. The patent was assigned to the →American Tool Works.

Kardax [‘The’]. A brand name associated with shotgun cartridges made in Britain by →Nobel Explosives Ltd of Glasgow. They date prior to 1918 and the purchase by Explosives Trades Ltd.

Karl: see also ‘Carl’

Karl Rob. Karl of Suhl in Thüringen, Germany, was trading as a gunsmith in 1930.

Karl Salvador Born in Florence in April 1839, Erzherzog (‘archduke’) Karl Salvador was the younger brother of Emperor Franz Josef of Austria-Hungary. Entering the Austrian army in 1858, he attained the rank of *generalmajor* in 1876 and *Generalfeldmarschall* in 1886. An interest in small-arms design led to collaboration with Georg, Ritter von →Dormus in the design of an embryonic pistol and the →Škoda machine-gun. Karl Salvador died in Vienna in January 1892, before the Škoda gun had even completed its trials.

Kaspar & Kruger GmbH, Niederlassung Suhl. The marks of this German wholesaler, founded in 1875 will be found on guns, ammunition and accessories dating prior to 1939.

Kassnar Imports, Inc., Harrisburg, Pennsylvania, U.S.A. This distributor of sporting guns, ammunition and accessories has handled →Sabatti bolt-action rifles under the Churchill brand name. The Churchill →Highlander and Churchill →Regent were the standard and deluxe versions of the Sabatti →Rover.

Kästli See 'Kaestli'.

Kaufmann Michael Kaufmann: see 'Webley'.

Kautzky Gunsmith Joseph Kautzky of Fort Dodge, Iowa, born in Austria, patented a trigger mechanism in the U.S.A. on 31st July 1906 (no. 827242, 'Automatic Single-Trigger Mechanism for Double-Barrelled Guns', sought on 6th June 1905). A variation of this system was used after 1918 on some of the shotguns made by the A.H. →Fox Gun Company of Philadelphia.

Kavanagh W. Kavanagh & Son; Dublin, Ireland (Eire) The name of this gunmaker has been reported on sporting guns and shotgun cartridges sold under the brand names →Ideal and →Mirus.

Kawaguchiya Firearms Company, Tokyo and Osaka, Japan. A manufacturer of air rifles styled on the pre-war BSA patterns during the early 1950s, and of a modernised version thereafter under the designation of SKB M53. The company was still making shotguns and cartridges rifles in the 1990s, but airgun production had ceased. →White Eagle pellets were also made. See also 'Asahi'.

Kayaba Kogyo, Tokyo, Japan. Recruited as a maker of Type 99 →Arisaka rifles, c. 1940. Production lasted only until 1942.

KB, K B, KYB These →headstamps were associated with the products of →Kynoch Ltd of Birmingham. They are customarily confined to shotgun and sporting-rifle ammunition. See also 'K'.

K.C. ['The']. Found on shotgun cartridges loaded by →Coltman of Burton upon Trent, Nottinghamshire, England.

KDF, Inc.: see also 'Voere'.

kdj This mark will be found on small-arms ammunition made under contract to the German authorities by →Ungarnische Metallplattenindustrie of Budapest during the Second World War.

Kedr This compact Soviet submachine-gun, designed in the late 1960s by Evgeniy →Dragunov, was tested in 1971 as the 9×18 *PP-71* (*Pistolet-pulemet*, 'pistol machine-gun') and adopted by the Russian ministry of internal affairs in 1994 as the *PP-91 Kedr*. Made by →Izhmash and the Zlatoust engineering factory, it has a pressed-steel receiver, a short projecting barrel, and a twenty- or thirty-round box magazine running up through the pistol grip; the butt folds forward over the receiver. The *PP-91-01 Kedr-B* has an integral silencer; the *PP-919 Kedr 2* chambers the 9×19 Parabellum round instead of the 9×18 Makarov type; the *PP-9 Klin* was a variant made for the interior ministry in 1996–2002; the 9×17 (9mm Short) *PKSK* is a semi-automatic version intended for private security services; and the *PST Kapral* is a semi-automatic chambering the 10×23 round. A series of *Esaul* derivatives has been developed to fire baton

and similar non-lethal ammunition.

Keegan The name of L. Keegan of 3 Inns Quay, Dublin, Ireland (Eire), has been reported on sporting guns and shotgun cartridges sold prior to the First World War under the name →‘Faugh a Ballagh’, a historic Gaelic battle-cry meaning ‘Clear the Way!’.

Keeler Samuel Keeler accepted →Dragoon-type revolvers made for the U.S. Army in 1848–52 by →Colt’s Patent Fire Arms Mfg Co., marking them SK. This can be confused with a similar marking found on single-shot pistols made by →Aston, which was allegedly applied by an inspector named S. →Knows prior to 1848. See also “U.S. arms inspectors’ marks”.

Keen Listed in 1813 as a gun-stock maker and supplier of walnut blanks, Job Keen had become a gunmaker by 1820. He was then working from 61 Gloucester Street, Commercial Road, London E., but was succeeded (possibly on his death) by Job Keen Junior in 1849. The younger Keen continued trading under his own name until 1855, but then took his own son into partnership and continued as Job Keen & Son until about 1866.

Keen: see also ‘Curry & Keen’.

Keene John W. Keene, working on behalf of the Federal army, accepted firearms and accessories during the American Civil War. His work—identified by JWK markings—can be difficult to distinguish from that of John W. →Kelly, but seems to have been confined to 1862–4. See also “U.S. arms inspectors’ marks”. It is suspected, but not yet proven, that John Keene was the inventor of the Remington-Keene bolt-action rifle; see next entry.

Keene John W. Keene (1828–79) of Newark, New Jersey, U.S.A., is now regarded as the designer of the →Remington-Keene rifle, though his earliest patents acknowledge a debt to Bethel →Burton and William →Ward. Indeed, John Keene had witnessed Ward’s 1871 patent. Keene was granted a variety of patents to protect the bolt-action, the extraction system and magazine feed of his rifles: U.S. no. 147945 of 24th February 1874 (‘Improvement in Magazine Fire-Arms’, sought on 6th December 1873); 147946 and 147947 of 24th February 1874 (‘Improvement in Carriers for Magazine Fire-Arms’, both sought on 17th December 1873); 147948 of 24th February 1874 (‘Improvement in Cut-Off Mechanisms for Magazine Fire-Arms’, 17th December 1873); 148614 of 17th March 1874 (‘Improvement in Magazine Fire-Arms’, 4th March 1874); 172447 of 18th January 1876 (‘Improvement in Magazine Fire-Arm’, 24th October 1874); 172448 of 18th January 1876; 182583 of 26th September 1876 (‘Improvement in Magazine Fire-Arms’, 9th February 1876); and 188468 of 20th March 1877 (‘Improvement in Magazine Fire-Arm’, 19th December 1876). Keene’s early death brought development of the rifle to a premature end, but it was already being overtaken by more effectual designs (e.g., the Remington-Lee).

Keeper, Keeper’s Usually found as ‘The Keeper’ on shotgun ammunition made in England by the →Midland Gun Company of Birmingham.

Keeper’s Normal [‘The’]. A mark found on shotgun ammunition made, or

- perhaps simply assembled in Britain by the →Normal Improved Ammunition Company of Hendon, Middlesex.
- Kehl.** F. Kehl of Zella Mehlis in Thüringen, Germany, was listed in 1930 edition of the *Deutsches Reichs-Adressbuch* as a master gunsmith.
- Keiner** Hugo Keiner of Heidersbach bei Suhl, Germany, was working in 1925 [DRAB] as a gunmaker, specialising in sporting- and high-quality guns, →*Drillinge* and double-barrelled shotguns. Trading ceased in 1929.
- Kelber** Gebr. Kelber of Suhl in Thüringen, Germany, was a gun-barrel making partnership of Rud. Louis & Wilhelm Kelber listed only in trade directories for 1914–19. Trading is assumed to have ceased in the early 1920s.
- Kelber** Louis Kelber; Suhl in Thüringen, Trübenbachstrasse 1. Listed in 1935–40 as a specialist gun-barrel maker.
- Kelber** Wilh. Kelber; Suhl in Thüringen, Beiersgrund 3 (1940). A gun-barrel making business owned in 1939, according to the *Deutsches Reichs-Adressbuch* by Wilhelm & Erich Kelber. Listed in 1940 as a specialist manufacturer of gun barrels and automatic barrel-blank drawing machinery.
- Kell** Charles Aylett Kell; London. The marks of this gunmaker have been reported on self-cocking →pepperboxes dating from the middle of the nineteenth century.
- Keller** Edmund Keller; Zella Mehlis in Thüringen, Germany. Listed in 1939 as a gun-barrel drawer.
- Keller** Heinrich Keller; Heidersbach bei Suhl in Thüringen. Listed as a gunmaker in German trade directories in the 1930s.
- Keller** P. Keller, a government inspector using a PK mark, accepted guns and accessories for the U.S. Army in the early 1900s. See also “U.S. arms inspectors’ marks”.
- Keller** Rudolf Keller; Suhl in Thüringen. A specialist gun stocker active in Germany in 1939 [DRAB].
- Kelly** John W. Kelly, a lieutenant in the U.S. and Federal navies, accepted a variety of firearms from the mid 1850s until the end of the American Civil War. They included →Remington and →Starr revolvers, though Kelly’s JWK may sometimes be difficult to distinguish from the similar mark applied to army-issue guns by John W. →Keene. See also “U.S. arms inspectors’ marks”.
- Kelor** [‘The’]. This mark will be found on shotgun cartridges handled by →Cogswell & Harrison.
- Kelsey** E.M. Kelsey accepted firearms and accessories on behalf of the U.S. Army, marking them EMK. His work was apparently confined to 1904–6. See also “U.S. arms inspectors’ marks”.
- Kemp** London gunmaker Joseph Kemp traded successively from Charlotte Street, 115 Jermyn Street and 31 Duke Street, Grosvenor Square. No entries seem to have been made in directories published after 1850, but it is possible that Joseph Kemp was one of the Kemp Brothers, below.
- Kemp Brothers.** Listed as members of the English gun trade in 1859–60, trading from Iron Bridge Wharf, Barking Road, and 202 King Street, Tower Hill,

London E. See also 'Joseph Kemp', above.

Kemp, Leddall & Company. This gunsmithing business, listed at 41 London Wall, EC, in 1860–2, may have been a successor to Kemp Bros., above.

Kempe Adalbert Kempe of Olbernhau in Sachsen, Germany, developed a variety of children's guns, including airguns. His designs included DRP 14177 of 21st December 1880 and DRP 20222 of 24th May 1882, both protecting *Neuerung an Kinderflinten* ("improvements in children's guns"). Patent 23893 of 17th February 1883 was the first to be granted for a simple *Luftgewehr* or 'airgun'. DRP 32657 of 30th January 1885, *Vorrichtung an Kindergewehren zum Zerreißen von Papier unter Knallentwicklung*, seems to have protected a method of 'firing' small fulminate charges carried on a paper strip. DRP 40107 of 12th January 1887—'Addition to Patent 23893'—protected an airgun with a sliding barrel, *Verschiebbarer Luftgewehrlauf*. Kempe's last German patent, 45124 of 14th April 1888, was granted for a child's gun with a tube magazine: *Kinder-Magazingewehr*. His exploits were significant enough to be recorded in *Der Waffenschmied* in the 1880s, but little else is known of Kempe's career.

Kendal, Kendal Castle ['The']. Marks found on shotgun cartridges sold by T. →Atkinson & Sons of Kendal, Cumberland, England.

Kennedy Samuel Kennedy, U.S.A.: see 'Burgess'.

Kennett, sometimes listed as 'Kennet'. A British barrel-cocking spring-and-piston air rifle designed in 1947 and apparently distributed by L. →Le Pesonne & Co. Ltd. Advertised in 1948 in .177 (4.5mm), but nothing else is known.

Kennett Usually encountered as 'The Kennett' on shotgun cartridges sold by →James & Co. of Hungerford.

Kent Usually as 'The Kent'; found on shotgun cartridges sold in northern England by T. →Atkinson & Sons of Kendal, Cumberland.

Kent Alfred Kent & Son; Wantage, Berkshire (Oxfordshire). This English 'Wholesale & Retail Furnishing & General Ironmonger, Lamp & Oil Merchant' handled 'Guns and Rook Rifles for Sale and Hire, and every Requisite for Shooting'—including →Kynoch and →Eley Kynoch shotgun cartridges sold under the brand name →Wantage.

Kentucky Found on →Suicide Special revolvers made by →Johnson, Bye & Company and/or →Iver Johnson of Worcester and Fitchburg, Massachusetts, in the U.S.A. in the late nineteenth century.

Kernan E.J. Kernan, a government inspector, accepted firearms and accessories into the U.S. Army; distinguished by EJK marks, they all dated from 1909–10. See also "U.S. arms inspectors' marks".

Kerner Emil Kerner; Suhl in Thüringen, Germany. Listed as a gunmaker, 1914–20, and as a gunsmith in 1930: perhaps Emil Kerner the Elder.

Kerner Emil Kerner & Sohn; Suhl in Thüringen. Founded in 1890, this business was advertising in 1925 as a maker of 'first class hunting and sporting guns... target rifles, automatic pistols, hunting accessories, and loading equipment for export to all parts of the globe'. By 1930, however, it was owned by A. Schlott and seems to have disappeared in the mid 1930s; no mention is made

of Kerner in the 1939 *Deutsches Reichs Adressbuch*.

- Kerner** Ernst Kerner & Co.; Suhl in Thüringen, Mauerstrasse 3 (1940). A gunmaking business founded in 1892 and still operating in Germany in 1930, by then under the ownership of J. Viereck; listed as 'Ernst Kerner KG', gunmaker, by 1939. Trading ceased at the end of the Second World War.
- Kerner** Ernst Robert Kerner; Suhl in Thüringen. A gunmaking business active in Germany prior to 1920, possibly the precursor of Ernst Kerner & Co., above.
- Kerner** Gebrüder Kerner; Suhl in Thüringen. Listed as a gunsmith in 1920, when owned by Ernst & Karl Kerner.
- Kerner** Rudolf Kerner & Co.; Suhl in Thüringen. This metalware manufacturer also sold sporting guns and ammunition, probably made elsewhere. Active in 1941.
- Kerner & Funk**; Suhl in Thüringen, Germany. Active as a gunmaking partnership in 1920 under the supervision of Ernst Kerner & Karl Funk.
- Kerr** Scottish gunmaker Charles Kerr of Stranraer in Wigtownshire handled sporting guns and shooting accessories, as well as shotgun cartridges sold under the brandname →Royal.
- Kerr** Herbert W. Kerr, a U.S. government employee, accepted pistols and other military firearms made in 1940 by →Colt=s Patent Fire Arms Mfg Co. They bore HWK identifiers. See also "U.S. arms inspectors' marks".
- Kerr** James Kerr. Grantee of U.S. Patent 17044 of 14th April 1857 ('Improved Rammer for Many-Chambered Breech Fire-Arms'), protecting a hinged rammer commonly encountered on →Beaumont-Adams revolvers.
- Kerr** James Kerr & Co. Ltd. Formed by James and John Kerr in 1854 and trading until about 1894, this business made cap-lock revolvers, sporting guns and apparently air canes from a manufactory at 54 King William Street, London Bridge. The →London Armoury Company ('L.A. Co.', 'LAC') had been created by John Kerr and Robert & John Adams on the dissolution of →Deane, Adams & Deane, to make Beaumont-Adams and Kerr cap-lock revolvers, but the Kerrs' business was listed separately in some London directories from 1870 until 1894 even though premises were shared with LAC.
- Kerr rifle** This bolt-action design, described in the official British Army reports as "similar to Wilson's", was rejected by the 1865 trials commission. Converted from a P/1853 Enfield cap lock rifle-musket, and often mistakenly recorded as the 'Carr' (even in official documents), it fired a special combustible cartridge. An improved version chambering centrefire Boxer ammunition was tested in 1868, but, unluckily, fell victim to the banning of all bolt-action guns on the grounds that they were potentially dangerous. The improved Kerr retained an external hammer, but had a rebounding striker and a camming action on the closing stroke to seat cartridges efficiently.
- Kerridge** Marks applied by gunmaker Henry Edward Kerridge of Great Yarmouth, Norfolk, England, have been found on sporting guns and shotgun cartridges sold under the brand name →East Anglian.
- Kesselring** Richard Kesselring; Suhl in Thüringen, Germany. Listed as a

gunsmith in the *Deutsches Reichs-Adressbuch*, 1939.

Kessler, Keßler A. Kessler; Suhl in Thüringen, Germany. Trading in 1930 as a gunmaker; listed by 1939 as 'Albin Kessler, Nachf.', gunsmith.

Kessler, Keßler Fritz A. Kessler; Suhl in Thüringen. A maker of guns and gun-parts, and a wholesaler of gun-stock blanks, active in Germany in 1939–45.

Kessler, Keßler F.W. Kessler; Suhl in Thüringen, Kleine Backstrasse 1 (1940). Founded in Suhl in 1869, this gunmaker was still being listed in the *Deutsches Reichs Adressbuch* in 1900; the 1914–20 directories list the proprietors as F. & B. Kessler, but had become 'Bernh. Kessler & Erben' by 1930. The listing 'F.W. Kessler KG', gunmaker, was being used by 1939 and lasted until operations ceased in 1945. Marks including F.W.K. (sometimes in the form of a monogram) have been found on pistols and →Martini-action sporting rifles.

Kessler, Keßler Kurt Kessler; Suhl in Thüringen, Windeweg 7. Listed in 1940-vintage trade directories as a maker of hunting guns (*Jagdwaffen*).

Kessler, Keßler Otto Kessler; Zella Mehlis in Thüringen, Germany. Listed in 1939 as a gun-stock maker.

Kessler pistol. This →blowback semi-automatic, clearly inspired by the 1900-pattern →FN-Browning, was made in Germany c. 1907 by Friedrich Pickert of Zella St Blasii. It is assumed to have been designed by one of the Kessler brothers (see F.W. Kessler, above). Chambered for the 7-65mm Browning cartridge, the pistol has a hinged two-part frame and a reciprocating breech block with grooved cocking spurs projecting forward outside the frame. The grips bear Pickert's →Arminius-head trademark, and there seems little doubt that it was made under sub-contract.

Kessler Rifle Company; Buffalo, Rochester and Silver Creek, New York State.

Maker of the Kessler pump-up pneumatic rifle, a .22-calibre copy of the →Crosman patterns. Kessler seems to have been liquidated in 1956 and the guns had only been produced for about four years, 1949–53. The location of the offices and factory seem to have changed several times.

Kezler An early automatic pistol, made in Germany by Friedrich →Pickert. See 'Kessler'.

Ketley See also 'Forrester, Ketley & Co.'

Kettner Eduard Kettner, Köln–Suhler Gewehrfabrik; Köln and Niederlassung Suhl in Thüringen. A well-known gunmaking business, founded in Thüringen in the 1870s and owned by Julius Kettner in 1900–30. A KSG mark may have been used until operations ceased at the end of the Second World War.

Kettner Franz Kettner; Suhl in Thüringen ('branch office'). Listed in German trade directories for 1914–20 as a gunmaker, and in 1925 as a maker of hunting and sporting guns, with a depot in Köln. Kettner was still being listed as a weapons maker in directories for 1930–9. Trading ceased in 1945.

Key pistols. The true personal defence of this type is really one in which the barrel forms the body of the key to fire forward, though a few examples had self contained short-barrelled pistols built into the key grip. These usually fire backward, towards the holder. Most true key pistols date from the

seventeenth or eighteenth centuries, when keys were large enough to conceal a gun-lock and barrel without exciting undue comment. They are much scarcer in the nineteenth century, owing to the improvement in lock design. See also 'Disguised guns'.

Keystone Gunstock Company See 'Springfield'.

kfa Found on small-arms components made in 1942–5 by the Yugoslavian state arsenal in Sarajevo under German control.

kfk Allotted in 1942 to →Dansk Industri Syndikat AS Madsen of Copenhagen, this mark will be found on military small-arms components made under German supervision during the Second World War.

KH *with the tail of 'K' superimposed on the stem of 'H'*. Used by Kuno Helfricht on 6.35mm pocket pistols made in Germany in the 1920s.

Kharykin Designer of a mount for the Soviet 12.7mm PKP machine-gun.

KJ, *encircled cursive linear monogram with 'J' slightly dominant*. Probably interpreted more accurately as 'KJ' (q.v.); found on revolvers made in Spain prior to 1914.

KJ Found on an Italian-made →IGI Model 202 air pistol dating from the 1970s. Significance unknown.

Kickspanner A name given to a one-push-on/next-push-off cocking mechanism found on many German-made shotguns. It is usually operated by a slide set into the top of the tang behind the top lever. See also 'Handspanner'.

Kick Up A single-shot tip-barrel pistol made in the U.S.A. in the last quarter of the nineteenth century by the J. →Stevens Arms Company of Chicopee Falls, Massachusetts.

Kiess, Kieß Edg. Kiess of Berlin, Nürnberg, and Suhl in Thüringen was a German weapons maker listed in 1930–45.

Kiess, Kieß Fritz Kiess & Co. GmbH; Suhl in Thüringen. Listed in German trade directories either as a gunmaker (1930) or as a weapons maker (*Spez. Jagdwaffen*, [DRAB 1939]). Trading in 1940 from Schleusinger Strasse 36, Suhl.

Kiley P.J. Kiley accepted U.S. Army firearms and accessories in the early 1900s, marking them PJK. See also "U.S. arms inspectors' marks".

Kilham ['The']. A brand name used by →Gallyon & Sons on shotgun cartridges sold in Britain.

Kill Deer Model Associated with a →Peabody-Martini sporting rifle. Possibly named after a rifle range.

Kill Quick ['The']. Found on shotgun cartridges sold by →Stiles Brothers of Warminster, but apparently made by →Eley-Kynoch. See also 'Kilquick'.

Kill Sure, Kill Sure ['The']. Encountered on shotgun ammunition loaded for →Harrods of London, probably prior to 1939.

Killer ['The']. Found on shotgun ammunition distributed in northern Scotland by John →MacPherson of Inverness. The cartridges usually prove to have been made by →Kynoch prior to 1914.

Killwell ['The']. Associated with shotgun cartridges ammunition for William →Richards of Liverpool and Preston.

Kilquick ['The']. See also 'Kill Quick'. Found on shotgun ammunition sold in Ireland by →Garnett of Dublin, apparently prior to the First World War.

Kilper Max Kilper of Bockstedt was a retailer of sporting guns and ammunition active in Germany in 1941.

Kimball John W. Kimball of Detroit, Michigan, designed a distinctive delayed-blowback pistol, applied to protect the extractor mechanism on 8th February 1956 (subsequently granted as U.S. Patent no. 2870562 on 27th January 1959). Delay was achieved by allowing the barrel to recoil a short distance with the breech-block, after which the barrel was held and the block was allowed to continue. The inner surface of the chamber was grooved so that the expanded cartridge case would hold the breech closed until the pressure fell. Kimball's goal was to combine a military weapon with a pistol which would allow hunters to carry only one type of cartridge, but the military would not countenance a pistol without a breech-lock and no self-respecting hunter carried an M1 Carbine! The .30 M1 Carbine cartridge was fired in an eighteen-inch barrel; propellant did not burn effectively in the five-inch barrel of the Kimball, and the expulsion of unburned grains from the muzzle promoted an erratic performance. John Kimball also designed a 'Gunstock of two sections pivotal relative to each other', protected by U.S. Patent 3388494 of 18th June 1968 (application filed on 25th March 1966); the drawings show an adaptation of the M14 service rifle, the goals being to reduce felt recoil and the tendency of the muzzle to climb when firing automatically.

Kimball pistol The design was much like a .22-calibre target automatic, with an exposed barrel, a short slide at the rear, and moulded plastic grips. The construction was largely of blued carbon steel. Experience soon showed that the powerful .30 cartridge broke too many frame lugs, raising the possibility that the slide would fly off backwards. Although Kimball planned to introduce chamberings such as .357 Magnum and .38 Special (eminently suited to handguns), only 238 pistols were ever made. Virtually all were chambered for the .30 M1 round, though there were a few in .22 Hornet and, perhaps, a prototype or two in .357 Magnum. The *Aircrew Model* had a 3.5-inch barrel. Sometimes listed as the 'Combat Model', it was manufactured in very small numbers; unburned propellant gave even more problems than in the standard five-inch barrel.

Kimball William W. Kimball, a lieutenant in the U.S. Navy, accepted a variety of firearms made from 1878 until c. 1890. Marked WWK, they included →Remington-Keene and →Remington-Lee rifles, →Colt revolvers, and →Hotchkiss-type revolving cannon made by →Pratt & Whitney. See also "U.S. arms inspectors' marks".

Kimball Arms Company, Wayne, Michigan, U.S.A. This gunmaking business was responsible for the Kimball pistol, 1955–8.

Kimbell J. Kimbell, active in the mid 1870s, accepted firearms and accessories on behalf of the U.S. Army; they bore JK. See also "U.S. arms inspectors' marks".

Kimber of America, Inc., of Clackamas, Oregon, U.S.A., was the successor in 1991

to Kimber of Oregon, which had been rescued by the Warne family. However, owing to wrangling over the change of ownership, production of the bolt-action rifles associated with the Kimber name did not begin again until 1994. The Models 82B and 84 were upgraded to 82C and 84C respectively, and a new K770 Custom Sporting Rifle replaced the Model 89 BGR.

Kimber of Oregon, Inc., of Clackamas, Oregon, U.S.A., made rim- and centrefire bolt-action rifles from 1979 until 1991. It was resurrected as Kimber of America (see above). Products included the Model 82 .22 rimfire sporting rifle (in 82A and 82B variants), the Model 84 Mini-Mausier, and the Model 89 Big Game Rifle ('BGR'). Kimber products were marketed under a variety of names. See also African, All-American Match, Big-Bore Sporter, Big-Game Rifle, Brownell Commemorative, Cascade, Centennial, Classic, Continental, Custom Match, Decennial, Government Model, Hunter, Mini-Classic, Mini-Mausier, Single-Shot Varmint, Super America, Super Continental, Super Grade, Ultra Varminter and Varminter. There were also grades identified as Deluxe, with AA-standard walnut half stocks.

Kind Albrecht Kind was founded in 1853 in Suhl in Thüringen, Germany, to make and sell hunting accessories. The business was listed in the Suhl directories for 1930 under the ownership of Albr. Kind & Dr H. Knipping. Now based in Hunstig dei Dieringshausen, but with several subsidiaries. Kind, better known by its →Akah tradename, has subsidiary warehouses in Nürnberg and Minden, and associated companies in Austria and France.

¶ The business encompasses, according to a recent company letterheading, *Waffen, Munition, Jadgegeräte, Herstellung, Handel, Export, Import...* ('manufacture, distribution, import and export of munitions and sporting equipment'). Mauser-action sporting guns have been reported with the company's trademarks, but were undoubtedly made elsewhere.

¶ Among the sporting rifles offered since the Second World War have been the Mauser-pattern →Mercur and →Saturn. Akah has also distributed airguns under the →Gecado (or →Diana Gecado) brand name; these were made by →Mayer & Gammelspacher of Rastatt. Other Akah marks have included an oakleaf and acorns, a bearskin, a rifle and shotgun in saltire, beneath a pistol and revolver (the whole enwreathed), and a fir tree. The brand names Eichel, Tanne, Schutzmann and Hubertus—the last-named formerly used by Imman. →Meffert of Suhl—may be found on sporting clothing. 'Hubertus' (sought in 1960, granted in 1962 and deleted from the register in 2002) was used only because Meffert had been subsumed into the DDR state firearms industry.

King A single shot break-open spring-and-piston →BB gun made in the U.S.A. by the Markham Rifle Company and its successor, the King Rifle Company, with a brass tube barrel and a red stained stock; probably dating from 1890–5.

King Similar to the preceding gun, but with a separate stamped trigger guard and a sheet-metal barrel and a transitional frame. It dates from 1905–10.

King A 1910 vintage spring-and-piston Markham/King BB gun, with →Polley patent frame and stepped barrel; also known as 'Model D'.

- King** Also known as the 'No. 21', a lever action Markham/King BB Gun, 1916–23.
- King** A 1935-vintage single shot lever-action Markham/King BB Gun, with distinct →Daisy influence.
- King** A.D. King, a government employee, accepted firearms (marked ADK) on behalf of the U.S. and Federal armies from c. 1850 until the end of the Civil War in 1865. They included cap-lock revolvers made by →Colt and →Starr. See also "U.S. arms inspectors' marks".
- King** Agent Benjamin T. King obtained British Patent 6373/07 for John Williams and Edwin Lawrence from chambers at 165 Queen Victoria Street, London EC.
- King** David M. King, a U.S. Army lieutenant, accepted firearms made by →Colt's Patent Fire Arms Mfg Co. Dating from 1899–1905, they could be distinguished by DMK. See also "U.S. arms inspectors' marks".
- King Breech Loader** A spring-and-piston BB gun designed by Edward S. →Roe, but basically an all metal →Chicago with external operating rods. Introduced in 1917.
- King Cobra.** Dating from 1987, this stainless-steel derivative of the .357 Magnum →Colt Python featured a heavy solid-rib barrel with a full-length ejector-rod shroud, a short-fall hammer, and Neoprene grips. A blued-steel version was introduced in 1988.
- King Cole**, usually encountered as "The King Cole". Found on shotgun cartridges loaded for →Cole & Son of Devizes and Portsmouth.
- King Junior.** A U.S. break-open single shot BB gun designed by E.S. →Roe, and made by →Markham in three minor varieties—with a straight barrel and a spur trigger; with a stepped barrel and a spur trigger; or with a stepped barrel and a ring trigger. It was manufactured from 1910 until 1935 or later.
- King Kadet Army Gun** A lever-action BB gun, similar to the King Repeater No. 22, but with a military-type backsight, a rubber tipped bayonet and sling swivels. Made in 1917–18 only.
- King Leader** Otherwise known as the Model or No. 24, this was basically an all metal version of the original →Challenger, made by →Markham from 1924.
- King Pin** This →Suicide Special revolver was made by the →Hopkins & Allen Arms Company of Norwich, Connecticut, U.S.A., in the late nineteenth century.
- King Repeater.** A name applied to several repeating BB guns made by →Markham and later →King, the first being the Model E, with a Polley-patent frame and a muzzle-lever repeating mechanism, 1905–10.
- King Repeater** The Markham/King No. 4 was a lever action 500-shot repeater with a half-octagon barrel, 1908–16. The No. 5 was similar, but was 1000-shot.
- King Repeater** The Markham/King Model C was a break-open design with the →Polley patent frame, a step barrel and an improved gravity feed, made only in 1910–16.
- King Repeater** The Markham/King No. 22 was a 500-shot repeater similar to No. 4, 1916–22.
- King Repeater** Markham/King designs: a 500-shot or 1000-shot gun, made only

- in 1935, which resembled the Daisy No. 155.
- King Rifle Company**; Chicago, Illinois, U.S.A. This succeeded the →Markham Rifle Co., which had been appropriately renamed in 1928. King continued to market a range of Markham-pattern BB guns, which gradually became closer in design features to the Daisies—scarcely surprising, as →Daisy had purchased Markham in 1916. Most of the output was sold through mail-order channels by →Sears, Roebuck & Co., but the factory closed in 1931 and many of the employees and much of the equipment were assimilated into Daisy. The two ranges merged in 1934 and the ‘King’ name finally disappeared in 1940.
- Kingfisher** [‘The’]. Found on foreign shotgun cartridges, perhaps emanating from Belgium or Germany, made for James →Matthews of Ballymena. See also ‘Hawk’, ‘Swift’ and ‘Wizard’.
- Kingsbury** Edward A. Kingsbury, a government inspector using an EAK mark, accepted firearms and accessories made for the U.S. Army in 1905–6. See also “U.S. arms inspectors’ marks”.
- Kingsland** A brand name associated with shotguns made by the →Crescent Gun Company of Norwich, Connecticut, U.S.A.
- King’s Norton Metal Company Ltd** [‘The’]. Birmingham, Warwickshire, and Abbey Wood, Kent, England. This cartridge-making business offered ‘Palma’-brand rim- and centrefire rifle ammunition, and a variety of shotgun cartridges. The commercial trademark was a ‘KNM’ monogram (q.v.), placed on a small cylinder or drum, though military ammunition was customarily marked ‘KN’ or ‘K N’.
- Kingston** [‘The’]. Often found as ‘The Kingston Smokeless’ on shotgun ammunition loaded from →Eley-Kynoch components by R. →Robinson of Hull. The name was provided by the original name of the city, Kingston-upon-Hull.
- Kingsway** [‘The’]. A brand name associated with shotgun cartridges made in Britain by →Nobel Explosives Ltd of Glasgow, prior to 1918 and the purchase by Explosives Trades Ltd.
- Kiralý** Pal D. Kiralý, a gun designer, was employed during his career by →FÉG, →SIG and the Dominican Republic state arms factory in San →Cristobal. He is best known for a two-part bolt design, patented in 1912, which was incorporated in the submachine-gun introduced in Hungary in the late 1930s for police and army use.
- Kirchner** Hugo Kirchner; Suhl in Thüringen. A specialist barrel-blank maker listed in the *Deutsches Reichs-Adressbuch* in 1939.
- Kirchner** Oscar Kirchner of Zella Mehlis in Thüringen, was listed in Germany in 1939 as a weapon maker. [Possibly the same as ‘Oskar Kirchner’, below.]
- Kirchner** Oskar Kirchner; Zella Mehlis in Thüringen. Listed in 1920 as a gunmaker; in 1930 as a gun-stock shaper; and in 1941 as a maker of guns and gun-parts.
- Kirikkale Tüfek Fb** Makers of the Turkish Kirikkale automatic pistol, a copy of the Walther →Polizei Pistole. See also ‘MKE’.

- Kirk** Henry Kirk, a government inspector, accepted firearms and accessories for the Federal army in 1862–3, during the American Civil War. His HK marks can be distinguished from those applied by Henry →Kane by gun-date. See also “U.S. arms inspectors’ marks”.
- Kirk** James Kirk of 36 Union Buildings, Ayr, Scotland, handled a variety of sporting guns and accessories, as well as shotgun cartridges sold under brand names such as →Land of Burns and →Retriever.
- Kirkham** Inspector Albert H. Kirkham, active only in 1862–3, accepted firearms and accessories on behalf of the Federal army. They were marked AHK. See also “U.S. arms inspectors’ marks”.
- Kirkham** John B. Kirkham (possibly the father of Albert H. Kirkham) accepted cap-locks for U.S. Army firearms from c. 1823 until the early 1840s. They could be distinguished by JBK. See also “U.S. arms inspectors’ marks”.
- Kit Gun** Also known as the M700 Kit Gun, this →Remington bolt-action rifle dated from 1987–9. It was simply a standard barrelled action accompanied by an unfinished ADL-pattern hardwood stock. Chambering options were confined to .243 Winchester, .270 Winchester, 7mm Remington Magnum, .30–06 or .308 Winchester.
- Kit Gun** Any of several swing-cylinder .22 rimfire revolvers made by →Smith & Wesson. Originally introduced in 1936, built on a round-butt J'-type frame, the guns were intended to be carried as part of the kit of hikers, hunters and fishermen. Production ceased for the duration of the Second World War, then began again c. 1947. An improved version with a rebound-slide hammer block appeared as the Model 1953 (Model 34 after 1957). The Model 63 was a stainless-steel version. See also ‘Service Kit Gun’ and ‘Target Kit Gun’.
- Kither** Gunsmith George Kither was listed in High Street, Dartford, Kent, from the middle of the nineteenth century until 1870 or later. He succeeded John Kither, at the same address in 1823–47, who is presumed to have been his father.
- Kittredge** Benjamin Kittredge & Company; Cincinnati, Ohio, U.S.A. Established as ‘Eaton & Kittredge’ in 1845, trading from 236 Main Street, this business made large numbers of →cap-lock sporting rifles and shotguns prior to the Civil War. Eaton retired in 1859, leaving Kittredge to continue alone at a variety of addresses on Main Street (perhaps simply periodic renumberings) until the Kittredge Arms Company ceased trading in 1891. Single-shot rifles, including →Sharps breechloaders, were ordered by the Federal government in November 1861 (they were presumably already in stock), and a metal cartridge box with a spring-loaded flap was patented on 27th January 1863. A second patent, 41848 of 8th March 1864 (‘Improvement in Revolving Fire-Arms’), was granted for a spring-loaded back-flash deflector embodied in the →Manhattan revolver. Kittredge became one of the leading gun dealers in the Midwest, and maintained a branch office at 55 St Charles Street, New Orleans, in the 1870s. ¶ Kittredge handled many of the earliest Remington cartridge revolvers, and was also responsible for many of the names popularly bestowed on the Colt

- revolvers—e.g., →Lightning or →Thunderer.
- Kitu** A 6.35mm six-shot →Browning-type pocket pistol made in France prior to 1940, probably by →Manufacture d'Armes des Pyrénées. The slides usually display nothing but FABRICATION FRANÇAISE.
- KJ**, *an encircled cursive linear monogram with 'J' slightly dominant*. Encountered on the frames of break-open →Smith & Wesson-style revolvers made in Spain prior to 1914; significance unknown. The mark has also been interpreted as 'IK', 'KI', 'KT' or 'TK', any of which seems possible; and as 'TJC' (q.v.), which seems less plausible. It is also possible that the mark denotes a distributor—perhaps in the U.S.A.—despite the guns' obvious Spanish origins.
- kjj** Said to have been found on German military optical equipment made by →Askania Werke of Berlin-Friedenau during the Second World War. The attribution remains uncertain, however, as Askania has also been linked with the production of vehicle parts.
- Kjobenhavn**: see 'Copenhagen arms factory'.
- Klawitter** A maker of crank operated spring-and-piston →Gallery Guns, or perhaps simply a retailer, working in Herzberg in Harz from the 1840s until 1870 or later; see also 'Nowotny'. Klawitter's name is sometimes linked with that of E.A. →Störmer in Herzberg.
- Kleanbore** Associated with shotgun cartridges made in the Brimsdown (England) factory of the →Remington Arms Company. It referred to the non-corrosive primer, invented by James Burns, a chemist previously employed by the →United States Cartridge Company. Ammunition of this type was introduced commercially in the U.S.A. in 1926.
- Klein** August Klein of Suhl in Thüringen, Germany, registered as a gunsmith prior to 1939.
- Klein's, Inc.** This well-known department store in Chicago, Illinois, advertised the →Kessler pneumatic rifle in its 1949/50 catalogues under the name 'Rochester'.
- Kleinert** Karl Kleinert of Zella-Mehlis in Thüringen, Germany, was listed in 1930 as a gun-stock maker.
- Kleingunther's, Inc.:** a distribution agency. See 'Voere'.
- Klett** Aug. Heinr. Klett; Suhl in Thüringen, Germany. Listed in 1900 as a gunmaker.
- Klett** Emil Klett; Suhl in Thüringen, Gothaer Strasse 122b. Listed in German trade directories from c. 1927 as a maker of guns (1930) and gun barrels (1939–41), active until the end of the Second World War.
- Klett** F.A. Klett; Suhl in Thüringen. Listed in the 1900 German directories as a maker of guns, gun barrels and tubes; owned in 1914 by Frau Hedwig & Alfred Hauche, the business was concentrating on gun barrels. Trading seems to have ceased about 1923.
- Klett** Heinrich Chr. Klett & Söhne; Zella St Blasii and Zella-Mehlis in Thüringen, Germany. Listed in 1900–14 as a gunmaker and also, in 1912–14 only, as a gun-barrel maker. Listed in Zella-Mehlis in 1920 as a gunmaker and gun-

barrel maker (as 'Heinrich Klett Sohn'). Owned by Heinrich Louis Klett. Listed in 1930 as a gun-stocker ('Heinrich Chr. Klett & Sohn').

Klett Johan Stephan Klett & Söhne; Suhl in Thüringen, Germany. Listed in 1900 as a gunmaking business, owned by Heinrich Klett. Trading seems to have ceased c. 1911.

Klin: see 'Kedr'.

Kline Richard M. Kline was co-designer with Kenneth →Pitcher of the Healthways →Plainsman pistol, 1955–7. Kline is assumed to have been the president of Healthways, Inc.

Kls Allotted to the Warsaw factory of →Steyr Daimler Puch AG for use on small-arms components made for the Germans during the Second World War.

KM, K.M. Applied to firearms and accessories used by the Royal Dutch navy or *Koninklijke Marine*.

KM, K.M. Found on U.S. military firearms and accessories. See 'Kenneth →Morton'.

KN, K N Found in the headstamps of British military ammunition made by the →King's Norton Metal Co. Ltd of Birmingham.

Kneifel Bernh. Kneifel & Co.; Berlin S59, Kottbuser Damm 95. Best known for producing an experimental zinc frame for the P. 08 (Luger) pistol, Kneifel was recorded in 1925 [DRAB] as an agent for ammunition, hunting and shooting accessories, and sports goods of all types. The full extent of the company's manufacturing facilities is not yet known.

Kneifel Gebr. Kneifel; Mehli in Thüringen, Germany. Listed in the directories of 1914 as a gunmaker.

Kneifel Waffenhaus Kneifel; Eisenach in Thüringen. This German gunmaking business, founded in 1890, was offering first-class hunting and deluxe guns by 1925 but does not seem to have survived into the Third Reich.

Kneisel Gebr. Kneisel; Mehli in Thüringen, Germany. Listed in 1900 as a master gunsmith.

Knickerbocker One of countless brand names associated with shotguns made by the →Crescent Gun Company of Norwich, Connecticut.

Knife pistols are customarily anonymous, obscuring their origins. Proof marks may occasionally identify nationality, but many pistol-and-knife combinations pre-date the establishment of mandatory proof. This is notably true of pre-1891 German examples, as well as those made in the U.S.A. (where there is still no national proof system). Many attempts to provide multi shot →combination weapons took knife-pistol form. Samuel →Colt even made a double action Paterson-type revolver with a sturdy blade beneath the muzzle, and many pinfire examples emanated from Europe in a range of sizes.

¶ Most of the pinfires will prove to have been made in Liège, but Spanish-made examples are known and a few were doubtless made in Birmingham. Knife pistols were customarily single shot, which enabled them to be kept as compact as possible. However, a few double-barrel examples survive and a few European guns (generally Belgian) incorporate small-calibre pinfire revolvers.

These usually date from 1870–1914.

¶ The idea was resurrected by the British during the Second World War, where, in the Spring of 1942, the staff of the Royal Small Arms Factory at Enfield Lock prepared the *Pistol, Revolver, 9mm D.D.(E.) 3313*—‘Design Department, Enfield, drawing no. 3313’. This was a refined Dolne →Apache with a six-chamber cylinder, a folding three-ring knuckle bow, a folding trigger, a swivelling blade on the left side of the frame, and an internal hammer.

¶ See also ‘American Novelty Company’, ‘Bazar’, ‘Disguised guns’, ‘George →Elgin’, ‘Andrew →Peavey’, ‘L.H. →Polhemus Mfg Co.’, ‘Joseph →Rodgers’, ‘Leo →Rogers’, ‘Self Protector’ and ‘Unwin & Rodgers’.

Knight Gunmaker P. Knight of Clinton Street, Nottingham, applied marks to sporting guns and shotgun ammunition sold under brand names such as →Castle, →Invincible and →Thurland.

Knight’s Armament Company; Vero Beach, Florida, U.S.A. A specialist maker of military weapons, particularly on the basis of the →ArmaLite rifle, KAC was involved in the design of the Colt 2000 auto-loading pistol and has also made silenced revolvers.

KNIL, K.N.I.L. The Netherlands Indies army, or *Nederlandsch Indisch Leger*, was formed in the 1880s to protect the Dutch colonies in the Far East. Though equipped largely with regulation weapons, special patterns of →Parabellum pistol and →Mannlicher carbines were developed specifically for colonial use. Guns of this type often bore distinctive unit marks (see Martens & de Vries, *The Dutch Luger*) or the marks of the →Centrale Werkplaats/→Centrale Magazijn. The colonial forces were granted the prefix ‘royal’ (*Koninklijke*) in 1905, ordered →Johnson automatic rifles when threatened by the Japanese advance in the Second World War, and were disbanded when Indonesia gained independence in 1949.

KNM, *often in the form of a monogram: ‘K’ and ‘N’ with an elongated ‘M’ running through them horizontally.* Marks associated with the →King’s Norton Metal Co. Ltd, found on ammunition.

Knoble William B. Knoble of Tacoma, Washington, U.S.A., designed the double-action semi-automatic ‘Rapid-Fire Pistol’ protected by U.S. Patent 743002 of 3rd November 1903 (sought on 12th December 1902). A single pistol of this type was submitted to the U.S. Army in 1907, but the unfinished state of the model—despite the precision with which the patent drawings had been executed—precluded firing trials and it was summarily rejected. Knoble also designed a ‘Telescope Mount for Rifles’, the subject of U.S. Patent no. 1418935 of 6th June 1922 (sought on 24th February 1920), a half-share of which was assigned to Arthur L. Johnson of Seattle.

Knock About A →Suicide Special revolver made by the →Crescent Arms Company of Norwich, Connecticut, U.S.A., in the late nineteenth century.

Knockout Usually found as ‘The Knock-Out’ on shotgun cartridges sold in England by →Hutchinson, Roe & Co. of Cranbrook, William →Powell & Son

of Birmingham and others, apparently loaded from components supplied by
→Eley-Kynoch.

Knock Out, Knock-Out Found on →Scheintod pistols of unknown make, but presumably German. The simplest consists of a bayonet-joint barrel attached to a frame embedded in an enveloping wooden handgrip; the best was a two-shot pattern with a tipping barrel block and a release button doubling as a safety catch. Knock Out guns are usually marked GES. GESCH. or GES. GESCHÜTZT ([German] 'Protected Design').

Knoll Max Knoll; Berlin and Suhl. Founded in Suhl in 1887, this business was listed in pre-1914 directories as a maker of gun parts. By 1925 it had its headquarters in Gustav Müller Platz in Berlin-Schöneberg; products at this time included hunting rifles, automatic weapons, ammunition and hunting accessories for distribution and export. Knoll used the brand name 'Emka' and a trademark consisting of an 'MK' monogram on a shield supported by two lions.

Knoll W. Knoll; Suhl in Thüringen. Listed as a gunmaker, 1920.

Knopf Richard Knopf; Suhl in Thüringen, Germany. Trading in 1930–9 as a maker of deluxe sporting guns (*Jagd- u. Luxuswaffen Fertigung*).

Knopf Wilhelm Knopf of Suhl in Thüringen, Germany, was a specialist gun-stocker registered in Suhl some time prior to 1939.

Knous Franklin Furman Knous (1846–1931), son of U.S. arms-inspector Samuel Knous (below), is listed in the 1870 U.S. Federal census as a toolmaker and in the Hartford, Connecticut, city directories for 1866–93 as a 'Machinist'. He then moved to New Haven, where directory entries commence in 1896 and was still there in 1920, when he was an 'Experimental Engineer in Ammunition Plant'. Franklin Knous was granted several U.S. patents, including no. 313001 of 24th February 1885 for a 'Safety-Lock for Concealed-Hammer Guns' (sought on 25th December 1884); no. 316899 of 28th April 1885 for a 'Magazine Fire-Arm' (sought on 9th March); 324330 of 11th August 1885 ('Magazine Fire-Arm', sought on 13th June 1885); 332203 of 8th December 1885 for a 'Magazine Fire Arm' (sought on 14th September); 358279 of 22nd February 1887 ('Magazine Fire-Arm, sought on 8th November 1886); 372153 of 25th October 1887 ('Magazine Fire-Arm', sought on 1st August). These were all assigned to →Colt's Patent Fire Arms Mfg Co., all but the first to protect improvements in the operating mechanism of the →Lightning pump-action rifle.

¶ Knous was also granted a variety of patents assigned to the →Winchester Repeating Arms Company: U.S. Patent 933254 of 7th September 1909 for an 'Automatic Firearm' (sought on 23rd February) to protect the trigger system of the company's rimfire auto-loaders; 964167 of 12th July 1910 for 'Take-Down Gun' (sought on 21st January), generally applicable to slide-action shotguns; 998347 of 18th July 1911 for a 'Repeating Firearm' (sought on 24th March), with the return spring running through the wrist of the butt; and 1260907 of 28th March 1918, jointly with Thomas C. →Johnson to protect a 'Combined Peep-Sight and Open Sight for Firearms' (sought on 20th August 1917).

Knous Frederick Knous. Identified [GDG&G] as the designer of a set-trigger used by →Remington, but probably confused with Franklin Knous (see previous entry).

Knous Samuel Knous accepted U.S. military firearms and accessories—including single-shot cap-lock pistols made by →Aston—dating from 1845–8. He has also been identified with the acceptance of →Dragoon revolvers made in 1848–52 by →Colt's Patent Fire Arms Mfg Co., but it now seems that these were actually accepted by Samuel →Keeler. See also "U.S. arms inspectors' marks". Samuel Knous was the father of Franklin Knous.

Knows, 'S. Knows': see 'Samuel Knous'.

Knox, Knox All, Knox Arms Company Brand names associated with shotguns made prior to 1920 by the →Crescent Gun Company of Norwich, Connecticut, U.S.A.

Knoxform usually refers to a prominent flat on the upper rear surface of a rifle barrel, which had originally been the hooked breech-plug of a muzzleloader. It is a corruption of the name of the London gunmaker Henry →Nock.

Knuckleduster pistols. The most popular form of striking weapon was based on the knuckleduster, an aid known since the days of the Roman gladiatorial arenas though the name did not enter English (by way of American slang) until the middle of the nineteenth century. William and John →Rigby of Dublin made a large number of multi-barrel cap locks with a rotating striker plate on the nose of the hammer and an all metal grip. Four barrel guns are most common, often made in matched pairs, though three- and six-barrel variants are said to have been made. They were specifically designed to serve as striking weapons after all the shots had been fired, and have a distinctive finger hole through the grip. Reloading was undertaken by unscrewing the barrels. The single-shot cartridge derringers made by →Moore's Patent Fire Arms Company, the →National Arms Company, and then →Colt's Patent Firearms Mfg Co. were conceived as dual purpose shooting/striking weapons. They are described in the section devoted to cartridge derringers. See also 'Apache', 'Delhaxhe', 'Disguised guns', and 'My Friend'.

Knuckle Duster Found on tiny solid-frame double-action revolvers made in Belgium prior to 1914 by Manufacture Liégeoise d'Armes à Feu, whose crowned ML will usually be found on the frames. They have vestigial bird's head grips, folding triggers, and short-spur or bobbed hammers.

København's Tøjhus: see 'Copenhagen arms factory'.

Kober Max Kober of Suhl in Thüringen, Germany, was listed as a maker of sporting guns (*Jagdgewehr-Fabrikation*) in 1930.

Kober Wilh. Kober u. Co.; Suhl in Thüringen. Listed in 1940 as a maker of metalware, and sometimes also associated with the production of gun parts. (But note that there was also F.W. Kober, a wholesaler of ironware trading contemporaneously in the city from Lange Brücke 21.)

Kobold The German equivalent of 'Cobold' (q.v.).

Kobra Found on a small 6.35mm pocket pistol, probably dating from the 1930s,

with German proof- and D.R.P. patent marks; manufacturer unknown.

Koch Albin Koch of Heidersbach bei Suhl in Thüringen made sporting guns and accessories in Germany prior to 1939.

Koch Hermann Koch of Goldlauter bei Suhl in Thüringen was usually listed in pre-1930 editions of the *Deutsches Reichs-Adressbuch* as a maker of hunting guns (*Jagd Waffen-Fabrikation*).

Kodensha Company, Iwade Cho, Tochigi, Japan. A maker of airguns in early 1950s. Subsequently part of Olin Kodenska Co., a joint venture with U.S. Olin Chemical Corporation.

Kodiak A derivative of the M725 bolt-action rifle made by the →Remington Arms Company in 1961–2 as big-game guns, chambered for the .375 H&H Magnum or .458 Winchester Magnum cartridges. The guns had muzzle brakes, recoil bolts through the stock beneath the chamber, and ventilated rubber recoil pads.

Kodiak Mfg Company of North Haven, Connecticut, U.S.A., built sporting rifles on the basis of refurbished 1898 pattern →Mauser actions from c. 1959 until about 1973. The guns were originally chambered the .243 Winchester, .30–06 or .308 Winchester rounds, though other options were subsequently added. The standard pattern had a plain hardwood stock with a low →Monte Carlo comb, but deluxe versions were also made. See also 'Ultra' and 'Varmint Ultra'.

Koenig: see 'König'.

Koishikawa artillery arsenal was founded in 1880 in Tokyo, Japan, to make the first single-shot 13th Year Type →Murata rifles. The manufactory subsequently made →Murata repeaters, →Arisaka rifles and →Hotchkiss-pattern machine guns alongside a variety of military stores. Owing to the long term effects of the 1923 Tokyo earthquake, however, production of small arms was transferred to a new factory in →Kokura; work ceased in Tokyo in 1932. Koishikawa products can be identified by a mark of four interlocking circles signifying piled cannon balls.

Kokura army arsenal succeeded the old →Koishikawa ordnance manufactory in Tokyo. It made 6.5mm calibre 38th Year Type Arisaka rifles in 1932–3 and 7.7mm Type 99 examples in 1940–5. The interlocking four-circle identification mark was retained.

Kolesnikov Ivan Nikolayevich Kolesnikov, the son of a peasant, was born near Ryazan in 1878. After rudimentary primary education, he was apprenticed to the workshop attached to the infantry officers school in Oranienbaum and rose to become foreman of the experimental workshop at the Oranienbaum proving ground. Kolesnikov transferred to the Kovrov machine-gun factory in the 1920s, remaining there until his death in 1941. His name is associated with a mount for the Maxim machine-gun ('PM'), produced during the First World War, and a light 'MK' or Maxim Kolesnikov machine-gun produced experimentally in the mid 1920s.

Kolibri The smallest automatic pistol ever to be manufactured commercially, this 2.7mm calibre gun was made by →Pfannl of Krems an der Donau.

Köln-Suhler Gewehrfabrik: see 'Eduard →Kettner'.

Ko Ma, Ko-Ma, KOMA Marks associated with the products of →Koma Werke (now →Voetter & Co., or 'Voere'). These included spring-and-piston air pistols made c. 1950–5.

Komaritsky Irinarkh Andreyevich Komaritsky, born in Tula in 1891, was educated in the local trade school before becoming a teacher at the Tula Military-Technical School. Transferring to the Tula arms factory after the October Revolution, he was then sent as a representative to Military Industry Council and became involved in the design of new small arms—in particular, the development with Evgeniy Kabakov of the sight-hood bayonet for the perfected or 1930-type Soviet →Mosin-Nagant rifle and work with Boris →Shpitalniy on the →ShKAS aircraft machine-gun. Komaritsky was awarded a USSR State Prize for his participation in the ShKAS project and another, after the Second World War had ended, for the development of artificial limbs. He died in Tula in 1971.

Kombi or Kombi-Handspanner A proprietary cocking system associated with some of the shotguns, →Double Rifles and combination guns made by H. →Kriehoff GmbH of Ulm/Donau since the 1980s.

Kommer Louis Kommer; Zella Mehliis in Thüringen, Germany. Listed in 1939 as a master gunsmith.

Kommer Theodor Kommer Waffenfabrik; Zella-Mehliis and possibly also Suhl in Thüringen, Germany. A manufacturer of sporting guns and the Kommer-brand pistols described below. The guns customarily bore Th. K. or a 'TK' monogram. The business was customarily listed in the *Deutsches Reichs Adressbücher* for 1920–45 as a weapon maker.

Kommer pistol. This series of semi-automatic pistols, derived from the FN-Browning blowbacks, was made by Theodor Kommer of Zella-Mehliis in the early 1920s. The 6-35mm *Modell 1* had a eight-round magazine; the *Modell 2* was similar, with a short grip and a six-round magazine; the 6-35mm *Modell 3* was little more than a *Modell 1* with a knurled large-diameter muzzle crown to facilitate dismantling; and the 7-65mm *Modell 4* was a copy of the 1910-pattern FN-Browning, lacking the grip safety mechanism of its prototype.

Kondakov Mikhail Nikolayevich Kondakov was born in St Peterburg in 1898. He volunteered to serve the Red Army in 1918 and had risen by 1921 to be the chief of staff of an artillery group. A period of study (1921-7) allowed him to serve the military scientific research bureau until his health failed in 1929. Kondakov returned to academic work, first as a designer and then as professor in the research department of the Artillery Academy. From 1932 until his death in 1954, he served as director of the Special Design Bureau. Kondakov is credited with an anti-aircraft mount for the →Maxim PM machine-gun, introduced in 1928, and a multi-barrelled 20mm cannon.

Kondor See also 'Condor'.

Kondor A brand name used on shotgun cartridges, probably made in the Durlach factory of →Rheinisch Westfälische Sprengstoff prior to 1914.

Kongsberg arms factory: see 'Heckler & Koch', 'Jarmann', 'Krag-Jørgensen', 'Krag-Petersson', and 'Remington'.

Koenig: can be listed as 'Koenig' or 'Konig'.

König Adolf König of Suhl in Thüringen made sporting-gun parts in Germany in the 1920s.

König Albin König; Zella-Mehlis in Thüringen, Germany. Listed in the 1930 *Deutsches Reichs Adressbuch* as a retailer of guns and ammunition, but possibly also maintaining repair facilities.

König Arth. König; Zella-Mehlis in Thüringen. Listed in 1930 as a master gunsmith.

König David Königs Söhne; Mehli in Thüringen, Germany. Listed in 1900 as a gunmaker and in 1914 as a gun and weapon maker.

König D.H. König; Mehli in Thüringen. Listed in 1900 as a weapon maker and wholesaler.

König Ferd. König; Mehli in Thüringen. Listed in 1900–14 as a weapon maker and wholesaler.

König Heinrich [&] Adolf König of Zella-Mehlis in Thüringen were listed in Germany in 1930–45 as makers of guns and weapons. A 'HAK' trademark has been attributed to this source, and it is possible that the name should be read simply as 'Hein. Adolf König'.

König H. Ferd. König; Zella-Mehlis in Thüringen. Listed in 1930 as a maker of guns and weapons. Sometimes listed as 'H. Ferd. S. König'.

König S. Robert & Willi König; Zella-Mehlis in Thüringen. Listed in the 1939 edition of the *Deutsches Reichs-Adressbuch* as master gunsmiths.

König W. König; Zella-Mehlis in Thüringen, Germany. Listed in the 1930 edition of the *Deutsches Reichs-Adressbuch* as a maker of guns and weapons.

König Willi König of Zella-Mehlis in Thüringen, Germany, was working as a specialist gun-barrel drawer in 1939.

König & Sohn; Benshausen in Thüringen, Germany. Listed in 1941 as makers of firearms.

Königlich bayerische Gewehrfabrik; Bavaria. See 'Amberg'.

Königlich Gewehrfabrik; Prussia/Germany. See 'Danzig', 'Erfurt' and 'Spandau'.

Konkor ['The']. A mark identifying shotgun ammunition handled in Britain by →Cogswell & Harrison. Also listed as 'Konor'.

Konstantinov. Designer of an experimental sniper rifle, made in small numbers in the 1960s to compete with the →SVD or Dragunov. This rifle was developed by Aleksandr Konstantinov to compete with the Dragunov (q.v.). Sometimes identified as the 'SVK', the gun was gas operated, locked by lugs on the bolt rotating into the receiver walls, and had a hammer-type trigger system restricted to single shots. The detachable box magazine held 10 rounds, and the tan-gent-leaf rear sight was graduated to 1200m (1310yd). The receiver was a sturdy pressing, most of the components were riveted together, and the barrel was held in its sleeve with a cross-pin. No gas regulator was provided, as the essence of the design lay in its simplicity.

The Konstantinov rifle had plastic furniture, two ventilated handguards retained by springs, and a detachable flash-hider. However, though batches of experimental rifles were made for trials extending over several years, they proved to be inferior to the competing Dragunov.

Koon Homer Koon designed the →Alpha and Ranger rifles.

Kopriva Gunsmith Bedřich Kopriva, trading from the town of Nymburk, c. 1890–1925, made sporting guns in peacetime and rifle components during the First World War. Among Kopriva's apprentices was František →Myška, in 1913–17.

Kork-n-Seal Ltd of Anchor & Hope Lane, Charlton, London SE7, made magazines for the British 9mm →Sten Gun during the Second World War. The regional code S 63 may have been used instead of the company name. [Note also a plant in Stirling, code 'N 93'.] See also "British military manufacturers' marks".

Kornbusch & Co.: see 'Oberspree'.

Korovin Sergey Aleksandrovich Korovin, born in Kharkov in 1884, the son of a clerk, took part in the abortive revolution of 1905 and was exiled from Russia. He moved first to Paris and then to Liège, where he worked until the First World War for →Manufacture de l'Armes de l'État. Returning to Russia, he was unable to gain appointment to the Tula factory until 1920. Korovin is best known for the 6.35mm →TK or Tula-Korovin personal-defence pistol, which had its origins in patents granted in Britain (e.g., 25744/12 of November 1912) and elsewhere prior to 1914. He also developed submachine-guns, automatic rifles and anti-tank weapons. Korovin remained in Tula, threatened by the German advance, even after the arms factory had been evacuated; he was subsequently able to design simple submachine-guns and mortars that were made from scrap material for the Tula Workers Regiment. Decorated with the Order of the Red Star and other honours, Sergey Korovin died in Tula in 1946.

Korriphila-Präzisionsmechanik GmbH of Ulm/Donau made handguns designed by Edgar Budischowsky, including the TP-70 pocket pistol and the roller-locked →HSP series.

Korth W. Korth GmbH of Ratzeburg/Holstein, Germany, produced some of the world's finest revolvers, and also a recoil-operated semi-automatic pistol with a patented buffer to reduce the shock of firing. Offered in 9mm Parabellum and other chamberings, the gun had a slab-side frame and slide, an exposed ring-hammer, and a double-action trigger.

Kotek L. Kotek AS, a Czechoslovakian metalworking business, was apparently founded in Prague in 1931 to make the →Stella airguns (most of which were barrel-cocking rifles). Series production began in 1933 with the assistance of František →Koucký, but is believed to have stopped in favour of small-arms components in the early 1940s.

Koucký František Koucký was born on 20th July 1907 in Krnsko, in the Mladá Boleslav district of Bohemia (then in Austria-Hungary, now Czechoslovakia). He joined Ceskoslovenská Zbrojovka after graduating from the Prague technical college in 1926, to work on the vz. 26 light machine-gun and prepare a design for an auto-loading rifle which never left the prototype stage. Moving

in 1933 to L. Kotek AS, Koucký supervised series production of the →Stella airguns before returning to Zrojovka Brno in 1943 to manage the rifle-making department. A semi-automatic rifle designed in collaboration with his brother Josef (q.v.) successfully participated in trials in Italy and would have entered production in the Cremona arms factory had not the Second World War ended when it did. Most of Koucký's post-war work concentrated on guns such as the .22 rimfire ZKM-451 sporter, the .22 rimfire ZK-455 target rifle, and the .22 Hornet ZKW-465. A selection of target pistols, submachine-guns and automatic rifles has also been made. František Koucký retired in the early 1970s and died c. 1981.

Koucký Josef Koucký, born on 1st March 1904 in Krnsko, Bohemia, was initially apprenticed as a toolmaker. After graduating from the Prague technical college, he joined the arms factory established by František →Janaček before moving on to →Československá Zbrojovka to develop small-calibre automatic rifles. Often working in conjunction with his younger brother →František (q.v.), Josef Koucký produced a series of automatic rifles, submachine-guns, machine-guns and anti-tank rifles on the basis of more than 130 patents sought in Czechoslovakia and abroad. He retired in 1965.

kov Found on German military optical sights and associated components made in Paris in 1942–4 by →Barbier, Benard & Turenne.

Kovo AS, Prague, Czechoslovakia. Maker of a range of barrel cocking spring-and-piston air rifles since the early 1950s, originally as the 519T, 521T and the 523T but perhaps now as the →Slavia range. The guns were originally sold by →Omnipol and then by →Mercuria.

Kovrov arms factory: see 'Fedorov'.

KPV A Soviet 14.5mm-calibre heavy machine-gun, usually mounted in tanks and armoured personnel carriers. It was the work of Semen →Vladimirov.

Krack Frank Krack, employed by →Rock Island Arsenal, was responsible for accepting .45 M1911A1 →Colt-Browning pistols refurbished and renumbered for the U.S. Army in 1940–1; the guns are marked FK. See also "U.S. arms inspectors' marks".

Krag Ole Hermann Johannes Krag, born in Vågå in Oppland in April 1837, entered the Norwegian army in January 1854 and was commissioned into the artillery in 1857. His aptitude for mechanical engineering was soon apparent, and so Krag was sent in 1866 to →Kongsberg Våpenfabrikk. There he designed a tube-magazine repeating rifle (1868), which, with the assistance of Axel Petersson, became the →Krag-Petersson rifle. Named director of the Kongsberg armoury in 1880, Krag worked with Erik Jørgensen (1848–96) to perfect the bolt-action Krag-Jørgensen. Protected by patents granted in many countries, this rifle was adopted by the Norwegian army in 1894; Ole Krag was made lieutenant-colonel at about the same time. He became master-general of ordnance in 1895, but retired from the army in 1902 ranking as colonel. Krag continued to work on small-arms after his retirement, including a semi-automatic pistol patented in 1909, and died in Paris in December 1916. Krag

is best known for his rifle designs, but also enlarged not only the Kongsberg small-arms factory but also the ammunition and propellant-making factory in Raufoss.

¶ Krag's patents included U.S. no. 429811, granted on 10th June 1890 to protect the Danish m/89 rifle ('Breech-Loading Gun', sought on 9th November 1889); 492212 of 21st February 1893 for the U.S.-type rifle ('Magazine-Gun', sought on 17th June 1892); 502727 of 8th August 1893 ('Straight-Pull Breech-Bolt for Firearms', sought on 31st December 1892); and 505363 of 19th September 1893 for a 'Cartridge-Holder' (application filed on 19th January). There were many versions of these patents; for example, Canadian Patent 44614 of 3rd November 1893 was essentially the same as U.S. 492212, while Italian patent 32722 of 8th October 1892 and Norwegian patent 2553 of 24th February 1892 were comparable with U.S. 502727. All of these were granted jointly with Erik Jørgensen.

¶ Ole Krag is also credited with a drum-type magazine (British Patent 14576/00 of 14th September 1901), and an auxiliary magazine for Gras-type single shot rifles (French patent 334594 of 24th December 1903, *Magasin s'adaptant aux fusils à un coup*). He also developed blowback pistols, usually with a one-hand cocking system in the form of a sliding trigger-guard. These guns were protected by U.S. Patents 954441 of 12th April 1910 ('Automatic Repeating Firearm', sought on 14th September 1908), and 1028032 of 28th May 1912 ('Automatic Repeating Firearm', sought on 18th August 1911), and by many comparable specifications, such as Austro-Hungarian Privilegium 39163 (*Selbstlade-Pistole*) of 11th October 1909 or French patent 394321 (*Pistolet Automatique*) of 20th January 1909.

Krag-Jørgensen rifle The first gun of this type to see military service was adopted in Denmark in 1889. Chambered for a rimmed 8×58 cartridge, the *Gevær m/89* (made from 1890 until 1921) was locked by a single lug on the bolt head engaging a recess in the receiver when the bolt handle was turned down, and by the bolt guide-rib abutting the receiver bridge, and the pan magazine beneath the boltway held five rounds. There were no safety features other than a half-cock notch, the stock had a straight grip, and the barrel was jacketed in the manner of the →Reichsgewehr. Pointed bullet ammunition was adopted in 1908, back sights were modified, and, in 1910, a cocking-piece safety catch credited to C.C.G. →Barry was added behind the bolt handle.

¶ The Danes used a cavalry carbine, the *Ryttergevær* or *Rytterkarabin m/89* (1912–13), with a conventional wooden handguard instead of a barrel jacket and a large stud in the left side of the stock wrist. The engineer carbine, or *Ingeniørkarabin m/89* (1917–18) was similar, but accepted a sword bayonet. The *Rytterkarabin m/89/23* (1923–6) was basically an m/89 cavalry carbine capable of accepting a bayonet. The infantry carbine or *Fodfolkskarabin m/89/24* (1923–40, 1944–5), lacking a barrel jacket, was originally converted from old m/89 infantry rifles, though production of new guns began in 1929. The earliest *Artillerikarabins m/89/24* (1925–30) were also conversions, retaining

the original back sights. They had a triangular sling swivel on the second barrel band and a large stud on the left side of the straight stock wrist.

¶ The Danes also issued a few hundred marksmen's rifles or *Finskydningsgevær*. Adopted in February 1928, *Fsk m/28* had a large diameter free-floating barrel, a hooded blade or globe front sight, and a micro-adjustable backsight on the left side of the receiver. *Fsk m/28/31* chambered the rimless 6.5×55mm Norwegian rifle cartridge instead of the Danish 8×58 type. In addition, large numbers of Krag-type *Salongevær* and *Salonkarabin m/89* were made for training, chambered for →Flobert primer-propelled ammunition; single-shot target rifles were made in several calibres; and unfinished actions were supplied directly to gunsmiths.

¶ Most of the Danish Krags were made in Copenhagen by *Geværfabriken Kjobenhavn* and *Kobenhavns Tøjhus* (1890–1915), by *Hærens Tøjhus* (1915–22), by *Hærens Rustkammer* (1922–32) and by *Hærens Vaabenarsenal* (1932 onward). The Germans seized at least 110,000 Danish Krag rifles and carbines during the Second World War, often adding their own inspectors' marks.

¶ The Krag also became the service rifle of the U.S. Army, after trials with more than fifty rifles had been concluded in August 1892. Krag-Jørgensen Rifle No. 5 was chosen ahead of →Lee No. 3 and the Belgian-type →Mauser No. 5 simply because fresh cartridges could be inserted in the magazine when the bolt was shut on a loaded chamber. It was a .30-calibre gun with a Mauser-type safety and a downward-opening loading gate; the *U.S. Magazine Rifle, Caliber .30, Model of 1892* (made in quantity in 1894–7) was essentially similar to the trials rifle.

¶ The action was locked by a single lug on the bolt head, and the lateral pan magazine beneath the boltway held five rounds. The *M1896 rifle* (1896–9) was an improvement on the 1892 pattern with a back sight with a stepless or continuously curved base. The *M1896 cadet rifle* was a basically an 1896-type infantry rifle with a full-length cleaning rod and a barrel-band spring. Only a few hundred cadet rifles were made in 1896–7.

¶ The perfected *M1898 rifle* (1898–1904) had an improved bolt mechanism. The receiver and magazine loading-gate were simplified, and the bolt-handle seat was milled flush with the receiver. The *M1898* or →Dickson pattern backsight had a bullet-drift adjustment and a binding screw on the slider. Withdrawal of the high velocity 1898-pattern cartridge, which had broken too many Krag locking lugs, heralded the 1901 or →Buffington-pattern sight with a stepless base and an elongated leaf. However, this proved to be too fragile and was replaced by the 1902-type or →Dickson tangent sight, which was similar to the 1898 pattern but had a single notch and a spring plunger in the slider.

¶ The *Board of Ordnance and Fortification Rifle* was made experimentally in 1902, with a short barrel and a special tangent-leaf sight. However, progress being made with modified Mauser-type →Springfield rifles was more encouraging, and the shortened Krag had soon been abandoned.

¶ Though carbines had been made for trials in 1893, the first regulation pattern was the *M1896* (1896–9), which had a half stock with a saddle-ring-and-bar assembly on the left side above the trigger guard. The *M1898 carbine* was similar to the 1896 pattern, but incorporated the improved or 1898-type action. Unfortunately, the high-velocity cartridges proved troublesome and *M1898* carbines were soon recalled to Springfield Armory to receive 1899-type stocks and new sights. The fore-end of the *M1899 carbine* (1899–1904) was lengthened by three inches. The guns all had 1896-pattern backsights, but these were then replaced by the 1901 →Buffington type.

¶ Widespread issue of *M1903* →Springfield rifles allowed withdrawal of Krag's. Some guns were exported, many going to Cuba, and others were shortened for service in the Philippines. Krag's were sold to members of the →National Rifle Association of America; many had soon been cut to carbine length and given rounded fore-ends (the 'NRA Carbine'), but others were properly re-modelled, as the smooth operating stroke and the renowned accuracy of .30–40 Krag rifles prompted gunsmiths such as R.F. →Sedgley, Inc. of Philadelphia to offer .25–35 WCF or even .250–3000 Savage variants.

¶ U.S. Krag's can be difficult to identify precisely; more than forty changes were made to the *M1892* alone, and wholesale changes of sights were made on several occasions. Virtually all regulation-pattern rifles and carbines were made by the →National Armory in Springfield, Massachusetts, though most →Philippine Constabulary Rifles were converted in →Manila arsenal.

¶ Last of the three major powers to adopt the Krag was Norway, where the 6.5×55 *Krag Jørgensengevær M/1894* (made from 1895 until 1935) was approved in April 1894. Essentially similar mechanically to the U.S. Krag, with a single locking lug on the bolt head, it had a five-round pan magazine and a loading gate that hinged downward. Norwegian guns all had pistol-grip stocks. The adoption of the *M/1923* spitzer bullet led to a wholesale change of sights, which, however, was not completed until 1938. Norwegian marksmen's rifles or *Skarpskyttegevær* included the *M/23* (1923–5) with an aperture sight, a full-length stock and a special heavy floating barrel; the *M/25* (1926–7) was an 1894-type infantry rifle with the aperture sight and a front sight with eared protectors; and the perfected *M/30* of 1931–4 had a half stock held by a single band. Some *M/1894/43* rifles were modified to short-rifle length during the German occupation of Norway in the Second World War. Fitted with front-sight protectors, the conversions displayed German ordnance marks.

¶ After the war had ended, new 7.9×57 target rifles were assembled from *M/1912* short-rifle actions and surplus Colt machine-gun barrels. The *M/48/51* pattern had an aperture sight in front of the chamber whereas the *M/48/53* had a folding open sight.

¶ The standard cavalry carbine, or *Krag Jørgensenkarabin for Kavaleriet M/1895* (1896–1912), had a half stock with a tapering fore-end. The cadet carbine, *Krag Jørgensenkarabin for Skoler M/1906* (1906–22), was identical with the *M/95* cavalry carbine, but lacked a hand guard. Colloquially known as *Gutte karabin*

or “boys’ carbines”, these guns were used for marksmanship training in the Norwegian secondary schools. The mountain artillery and engineer carbine, the *Krag Jørgensenkarabin for bergartilleriet og ingeniørvåpnet M/1897* (1897–1911) was practically identical with the cavalry carbine, excepting that the rear swivel lay closer to the toe of the butt than the pistol grip. An engineer carbine, *Krag Jørgensenkarabin for ingeniørvåpnet M/1904* (1904–15), otherwise similar to the 1897 pattern, was stocked virtually to the muzzle and accepted a bayonet. The field-artillery carbine, *Krag Jørgensenkarabin for feltartilleriet M/1907* (1907–15) had one swivel on the left side of the rear barrel band and another on the under edge of the butt.

¶ Intended for universal issue, the *Krag Jørgensenkarabin M/1912* (1912–35) was more of a short rifle than a carbine. A steel strengthening collar was combined with the nose cap in 1916, and the backsights were revised from 1925 onward for the M/1923 →spitzer-bulleted cartridge.

¶ Virtually all Norwegian military-pattern Krags were made in →Kongsberg Våpenfabrikk, the state small-arms factory, apart from a few thousand M/94 rifles made in the 1890s by Österreichische Waffenfabriks Gesellschaft in Steyr (‘OEWG’) and a few hundred by Fabrique Nationale d’Armes de Guerre in Herstal lèz Liège. Army type M/1894 sporters were made in Kongsberg and by Österreichische Waffenfabriks Gesellschaft; Kongsberg also offered M/1912 short rifles and sniper rifles commercially, or for sale to members of the Norwegian rifle association. These guns lacked army-issue butt traps, and their bolts bore an axe-carrying rampant lion instead of the ‘OII’ or ‘H7’ monograms of Oscar II and Haakon VII.

¶ Among the best sources of information about U.S. Krag-Jørgensen rifles are *Krag Rifles* by Lt-Col. William S. Brophy (The Gun Room Press, 1980); *The Krag Rifle Story* by Franklin B. Mallory and Ludwig E. Olson (Springfield Research Service, 1979); and, for Norwegian patterns, *Hærens håndvåpen. Geværer og karabiner 1814–1940* by O. Nielsen and F.C. Skaar (Haermuseet Akershus, c. 1970). Details of Danish weapons, however, are still comparatively difficult to find.

Krag-Petersson rifle This quirky tube-magazine repeater, designed by Norwegian army officer Ole →Krag and Swedish engineer Axel Jakob →Pettersson, was apparently inspired by the block-action single shot →Lee rifles that had been tested by the U.S. Army in the early 1870s. Patented in Norway in 1874, the Krag-Petersson was confined largely to naval service, about 950 12·17mm rimfire Norwegian 1876-type navy rifles, *Marinen Repetergevær M/1876*, being made by →Kongsberg Våpenfabrikk in 1876–7. A few hundred Danish 11·35mm rimfire navy carbines, *Flådens magasin karabin m/1877* were made in Geværfabrik Kjobenhavn in 1878–80. Krag-Petersson rifles had hammer-like actuating levers above the breech and tube magazines beneath the barrel. However, a committee of Swedish and Norwegian officers subsequently rejected a Krag-Petersson army rifle in favour of the bolt-action →Jarmann.

Kraguyevač arms factory: see ‘Crvena Zastava’.

Kramer: see 'Schilling & Kramer'.

Kraskov The co-designer with →Serdyukov of the Soviet/Russian →ASS and →VSS silent firearms.

Kratochvil Gun designer Jan Kratochvil is best-known for the 7.62×45 Model 52 semi-automatic rifle (*Samonabíjeckí puška vz.52*) derived from the experimental ČZ 147, ČZ 475, ČZ 493 and ČZ 502. The Model 52, adopted on 20th March 1952, was made in quantity in the Uherský Brod factory of Československá Zbrojovka for the Czechoslovakian army (1952–7). A few vz. 52/57 guns chambered for the Soviet 7.62×39 cartridge were then made, and original 1952-type guns were converted in the late 1950s.

Kraus Irwin Rudolf Kraus was co-designer with Edward R. →Wackerhagen of the →Sheridan pneumatic and gas-powered rifles.

Krauser. Alfred Krauser of Zella-Mehlis in Thüringen—a gunmaking business, perhaps simply a distributor—marked →Helfricht-patent →Helkra pistols sold in Germany in the 1920s. Nothing else is known.

Krausser Ernst Krausser of Zella Mehlis in Thüringen, Germany, was listed in 1930 as a master gunsmith.

Krausser Ernst, Otto & Udo Krausser; Zella Mehlis in Thüringen. Listed in the *Deutsches Reichs-Adressbuch* for 1939 as master gunsmiths.

Krauss-Klein Paul Krauss Klein, probably a merchant instead of a gunsmith (but nonetheless a member of the English gun trade), was listed at 15 Tower Hill and 15 King Street, Tower Hill, London E, in 1870–2. Henry →Jarrett may have been a predecessor.

krd Found on German small-arms ammunition made by →Lignose AG of Kriewald (subsequently renamed 'Sprengstoffwerke Oberschlesien GmbH') in 1942–5.

Kreinberger Aug. Kreinberger of Zella Mehlis in Thüringen, Germany, was listed in the 1939 edition of the *Deutsches Reichs-Adressbuch* as a master gunsmith.

Kreinberger H. Kreinberger; Zella Mehlis in Thüringen, Germany. Listed in 1930 as a master gunsmith.

Kreps Marian T. Kreps (or 'Krepps') accepted guns and accessories on behalf of the Federal army in 1862–3, during the American Civil War; they bore MTK markings. See also "U.S. arms inspectors' marks".

Krico A tradename used by →Kriegeskorte & Co. of Stuttgart-Hedelfingen on spring-and-piston air guns made in 1948–55, and on firearms made since the mid 1950s.

Krider John Krider & Company of Philadelphia, Pennsylvania, U.S.A., active from 1829 until 1876, made revolvers for Jesse →Butterfield in the early years of the American Civil War.

Krieghoff Heinrich Krieghoff Waffenfabrik, Suhl. This gunmaking business was founded in 1916 by Heinrich Krieghoff (1889–1973), who had learned his trade as an apprentice in the factory of Fabrique Nationale d'Armes de Guerre and had finally parted company with →Semper & Krieghoff. Ludwig Krieghoff the Younger joined the firm in 1919, but the death of the elder Ludwig

in 1924 effectively brought back the goodwill of Sempert & Krieghoff—a name that seems to have been perpetuated on sporting guns and rifles until the late 1930s. These included an over/under shotgun without barrel lugs, since claimed as first of its type to have been commercially successful. The →Trumpf →Drilling, had a separate rifle-cocking mechanism, and the →Neptun Drilling had an automatic selector and an inertia-block safety system to prevent →doubling.

¶ Though the Krieghoff name will be found on a variety of guns that had been bought-in from elsewhere (e.g., Walther pistols), the company is best-known for involvement with the →Parabellum pistol, distributed in small numbers in the 1920s and 1930s and then made in quantity for the Luftwaffe in 1936–8; these airforce guns were made at least partly on machinery from the →Erfurt manufactory that had passed to the newly-liquidated →Simson & Sohn. Their history has been painstakingly documented in *The Krieghoff Parabellum* by Randall Gibson (1980).

¶ Krieghoff also developed a semi-automatic sporting rifle in the early 1930s, and was involved not only with the manufacture of machine-guns (MG. 15, MG. 81, MG. 131 and MG. 151) during the Second World War but also in the development of the 1942-type paratroop rifle (FG. 42). The Erfurt and district telephone directories for 1940–1 list the *Bau-Ansicht des RLM*, in addition to factories in Suhl at Erffast Strasse 3 and Gothaer Strasse 155, and the drop-forge at Schmückestrasse 13. By 1945, Krieghoff was operating four factories in Suhl and four elsewhere in Thüringen—at Schwarza, Kloster Vessra, Thema and Unterneubrunn. The long-established business of Anciens Établissements →Pieper had been acquired in the 1930s, operating as a 'Krieghoff feeder' after the German invasion of Belgium; a factory worked in Łódź in occupied Poland, another existed at Kufstein in the Austrian Tyrol, and three more operated in Sterzing, Mühlbach and Franzenfester in the Südtirol.

¶ The post-war partitioning of Germany gave Thüringen to the Russians, who subsequently demolished the Krieghoff factory; however, the owners and many of their employees, well aware of the consequences of staying, had already moved to the Ulm district. Guns handled by Krieghoff in the 1916–30 period usually bear the company name in full; those dating from 1930–40, however, customarily bear HK (q.v.) and a sword-and-anchor (*Schwertanker*) device. The code 'fzs' will be encountered on wartime products.

Krieghoff H. Krieghoff GmbH & Co. of Ulm/Donau was a successor to the Suhl-based Krieghoff company (see above), relocated immediately after the end of the Second World War in western Germany. The gunmaking business has made a range of superb side-by-side and over/under shotguns, double rifles, and combinations of smooth-bore and rifled barrels (including →*Drillinge*). The quality of the metalwork and wood-to-metal fitting is exemplary; decoration can be applied from comparatively plain engraving to the finest high relief inlay work.

¶ Most guns incorporate standard features, such as the Krieghoff Universal

Trigger System and the Combi cocking device. The trigger has been designed specifically to preserve crisp operating characteristics, but preventing the accidental doubling (firing a second shot unbidden) which has often plagued double rifles chambering powerful ammunition. The Combi mechanism allows the rifles to be carried with the hammers down—the safest position—but they can be cocked simply by pushing forward on the slide on the tang. If the slide is locked forward, the action re-cocks automatically each time it is opened; alternatively, the hammers can be lowered safely (even if the chambers are loaded) simply by pushing the slide forward as far as it can go, then gently allowing it to move back to the rear or uncocked position.

¶ In addition to the named guns considered separately, Krieghoff has also made the K-80 12-bore over/under shotgun and a single-barrelled derivative designated 'KS-5' in a variety of patterns suited to sporting use and clay-pigeon shooting. The K-80 was derived in the early 1950s from the Remington Model 32, designed by Crawford →Loomis and made in small quantities prior to 1942. Krieghoff guns have fore-ends of differing width, and butts with a selection of combs and recoil pads. The K-80 RT is a special variant with a readily detachable trigger mechanism ('Removable Trigger'). Krieghoff also offers combination rifle/shotguns, as well as sub-calibre inserts (→*Einsteckläufe*) to convert shotgun barrels to rifles.

¶ See also 'Bavaria', 'Classic', 'Crown Grade', 'Danube', 'Gold Target', 'Hubertus', 'Neptun', 'Parcours', 'Plus', 'Primus', 'Teck', 'Top Single', 'Trumpf', 'Ulm', 'Ultra' and 'Unsingle'. Krieghoff guns have all been made on a variety of patterns, with decoration ranging from delicate English-style engraving to riotously baroque combinations of chiselling and encrustation. Butts may take standard, →Monte Carlo or →Bavarian form, and a wide range of accessories (single triggers, →Express sights, etc) has been offered.

Krieghoff Ludwig Krieghoff the Elder (c. 1860–1924) was one of the founders of →Sempert & Krieghoff, which commenced trading in Suhl 1886. He is best remembered for his sporting-gun designs, and especially for a method of ensuring that gun-stocks fitted their owners—protected by German patent no. 123902, granted in 1900, when he was listed as a gunmaker in the *Deutsches Reichs-Adressbuch*. He also developed a sub-calibre barrel insert, sold under the brand name Semper, and coined the slogan 'The barrel shoots, the stock hits'.

Kriegskorte & Co. GmbH, also known as 'Krico Werk', of Stuttgart Hedelfingen was founded in Stuttgart in 1947 and now better known as →Krico GmbH, began production of air rifles (LG 1) in 1949. Work continued until c. 1965, by which time the LG 500 was being offered. Production then ceased. The first sporting rifles were made by refurbishing military surplus →Mauser actions in the early 1950s. The company then produced a new short action Miniature Mauser (1956–62) before developing more modern designs.

Kriminalpolizei-Pistole, or 'PPK'. A compact variant of the →Walther Polizei-Pistole ('PP'), introduced in 1931 and originally known as the *Polizei-Pistole*,

kurz ('short') or *Polizei-Pistole, kleine* ('small'). The guns, offered in 6.35mm, 7.65mm or 9mm Short, were distinguished by a one-piece wraparound grip, and their magazines held one less cartridge than the PP versions. They were numbered in a single series until 1939, when they were separated and began again at 100001P and 100001K for *Polizei-* and *Kriminalpolizei-Pistolen* respectively. The safety catch had changed from 90-degree rotation to 60-degree in 1938. Machining was simplified during the Second World War, and production of PPK stopped in 1945 when the U.S. Army reached Zella-Mehlis. Work recommenced in Ulm/Donau in the 1950s, though many of the post-war guns (indeed, all of those made prior to 1964) were assembled from parts made in France by →Manurhin.

Krinkov: see 'AKR' and 'Kalashnikov'.

krl This mark was allocated in 1942 to the Krümmel factory of →Dynamit AG, for use on German military small-arms ammunition and components.

Krnka Karel, 'Karl' or 'Charles' Krnka was one of the best-known, but by no means the most successful of pre-1918 Austro-Hungarian gun designers. His reputation now rests more on his abilities as a journalist and as author of the textbook *Die prinzipiellen Eigenschaften der automatischen Feuerwaffen* ('The principal characteristics of automatic firearms') published in 1900 under the pseudonym 'Kaisertreu'. Karel Krnka was born in Velký Varadín on 6th April 1858, son of the gunmaker Sylvestr Krnka (below). After a period of apprenticeship, the younger Krnka was commissioned into an Austro-Hungarian infantry regiment for a short period of military service. During this time he helped his father with the *Schnellade-Gewehr* ('rapid-loading rifle'), developed an auto-ejecting version of the →Werndl, and embarked on the first of his small-calibre military bolt-action rifles. This performed well in the Austro-Hungarian military trials of 1887–8, but was rejected in favour of the →Mannlicher that was backed by a powerful syndicate headed by *Waffenfabrik* →Steyr. Krnka left the army in 1887 and moved to Britain to become chief engineer of the short-lived →Gatling Arms & Ammunition Co. Ltd of Birmingham, but returned home in 1891 when the Gatling operations failed.

¶ In addition to patents obtained jointly with his father Sylvestr (see next entry), Krnka received German patent (DRP) 38493 of 18th February 1886, granted to Karel Krnka and Thomas →Serderl of Ottakring to protect a *Schlagstiftenschloss* ('firing-pin lock'). DRP 54011 of 8th November 1889 and 56461 of 13th March 1890, both assigned to the Krnka Repeating Rifle Co. Ltd of London, were granted for a *Geradezug Cylinderverschluss für Gewehre* ('straight-pull bolt lock for guns'); 57499 of 4th September 1890, when Krnka was living in Aston by Birmingham in England, protected a box-magazine for bolt-action repeating rifles. DRP 64503 of 15th November 1891 was accepted for *Im Verschlusskopf gelagerte Auszieh- und Auswurf-Vorrichtung für Cylinder-Verschluss-Gewehre* (a combination extractor/ejector mounted on the bolt head), and 65153 of 4th November 1891 protected a *Cylinderverschluss mit vier*

an der vorderen Ende angeordneten Verschlussknaggen (a bolt with four locking lugs on the head). DRP 70644 of 2nd February 1893 was obtained jointly with Wilhelm →Hebler for a long slender double-ended projectile with a hollow tubular core. Krnka's last German patents, 319646 of 19th March 1920 and 319647 of 30th January 1915, both protected locking systems for auto-loading rifles. Neither was published until 1920.

¶ Karel Krnka was granted U.S. Patents 442058 of 2nd December 1890 for a 'Magazine Gun' (sought on 25th January 1890 and assigned to the →Krnka Repeating Rifle Co. Ltd); 449287 of 31st March 1891, 'Cartridge Cramp for Magazine Guns' (sought on 26th April 1890 and assigned to the Krnka Repeating Rifle Co. Ltd); 459874 of 22nd September 1891 ('Revolving Magazine Fire Arm', sought on 28th September 1888), for a mechanically-operated repeating pistol; 475061 of 17th May 1892 ('Magazine Gun', sought on 31st March 1890, assigned to the Krnka Repeating Rifle Co. Ltd); 495137 of 11th April 1892, 'Extractor and Ejector for Bolt-Guns' (sought on 17th December 1891); and 495741 of 18th April 1893, 'Breech-Bolt for Firearms' (sought on 17th December 1891).

¶ After operating in Prague as a patent agent (1891–8), Krnka became works manager of Patronenfabrik G. →Roth. There he continued to develop guns, though the patenting of this work in conjunction with Roth has denied Krnka much of the credit. Among the most important granted to 'Georges Roth and Charles Krnka' were U.S. Patents 634913, 'Recoil-Operated Firearm', of 17th October 1899, showing a pistol and a rifle; 645976 of 27th March 1900, 'Metallic Compound for Projectiles' (sought on 17th June 1898); 670249 of 19th March 1901 for a 'Magazine Charging Clip' (sought on 18th August 1900); 676995 of 25th June 1901 for an 'Automatic Firearm' (sought on 18th August 1900); and 683072 of 24th September 1901, also for an 'Automatic Firearm'. The last two of these depict the well-known 'Krnka-Roth' pistol. This in turn led directly to the →Roth-Steyr, or *Repetierpistole M 7*, which was adopted by the Austro-Hungarian cavalry.

¶ Krnka left the Roth organisation when its founder died in 1909, working for the →Hirtenberg ammunition manufactory until 1922. In this period, he was granted a large number of Austro-Hungarian *Privilegia* (patents). They included 40483, sought on 8th October 1909 to protect a cartridge case (*Patronenhülsen, Inbesonders für Selbsttätige Feuerwaffen*), which was registered on 10th January 1910 with an acknowledgement that protection was deemed to begin on 15th September 1909. This was typical of protection of this type, though only the application and the acceptance dates are given hereafter. *Privilegia* 40384 for a safety mechanism (*Vereinigte Sicherungs- und Patronenhalter-Vorrichtung für Handfeuerwaffen*), 40385 for a locking system (*Verschluss für Selbsttätige Feuerwaffen*) and 40386 for a drum magazine (*Trommelmagazin für Feuerwaffen*) all shared the same dates as 40383. *Privilegium* 41209 of 25th February 1910 (sought on 15th May 1909) protected a cartridge case; 50520 of 25th October 1911 (sought

on 26th June 1910) protected a locking system, and 50521 of the same date protected a combination of return spring and cocking mechanism (*Schliessfeder-Vorrichtung für Selbsttätige Feuerwaffen*). No. 53434 of 10th May 1912 for a trigger system (*Abzugvorrichtung*), sought on 21st June 1910, back-dated protection to 1st December 1911; 56339 of 26th May 1913 (sought on 14th August 1912) protected a lubricator and cooling system (*Kühl- und Schmiereinrichtung für Selbsttätige Feuerwaffen*); 59341 of the same date protected a charger or 'stripper clip'; and 59558, sought on 26th August 1912 and accepted on 10th July 1913 protected another locking system for 'self-acting weapons'.

¶ Karel Krnka continued to work for Hirtenberg throughout the First World War, but the Privilegium system was suspended and not until after the fall of the Habsburg monarchy in 1918 were wartime developments given protection, first as patents issued by the *Deutschoesterreichisches Patentamt* and then by its successor, the *Österreichisches Patentamt* ('Austrian Patent Office'). Two Austrian patents protecting locking systems for automatic rifles, 77555 (*Verschluss für selbsttätige Feuerwaffen mit starrer Warzenverriegelung*) and 77557 (*Verschluss für selbsttätige Feuerwaffen*) of 11th August 1919 had been sought on 20th January and 23rd February 1914 respectively. No. 99739, accepted on 25th April 1925 with protection back-dated to 15th November of the previous year, featured another trigger system (*Abzugvorrichtung*), while 101407 of 26th October 1925 was granted for a locking system, and, last of all, 101757 of 25th November 1925 was obtained for a breech housing or receiver.

¶ Krkna's later U.S. Patents included 975256 of 8th November 1910, 'Automatic Firearm' (sought on 14th July 1909); 1008162 of 7th November 1911 for 'Drum-Magazine for Firearms' (sought on 13th July 1909); 1018914 of 27th February 1912 ('Automatic Firearm', sought on 12th July 1909), which shows an auto-loading rifle in detail; and 1166913 of 4th January 1916, sought on 8th August 1913) to protect the locking system of yet another 'Automatic Firearm'.

¶ Karel Krnka returned to newly-independent Czechoslovakia in 1923, working initially for Zbrojovka →Praga and then for →Československá Zbrojovka, but died in Prague on 25th February 1926.

¶ His British Patents included 19912/93, accepted on 25th November 1893 to protect 'Improvements in Projectiles', which had been sought on 23rd October 1893 jointly with the Swiss ballisticians Wilhelm →Hebler. No. 6048/98, sought on 11th March 1898, was accepted on 30th April 1898 to protect 'Improvements in Projectiles'; 25151/98, sought on 29th November 1898 and accepted on 11th February 1899, protected 'Projectile consisting of Malleable Tungsten Alloy'. Both of these were granted jointly with Georg Roth, as were 10601/99 (accepted on 7th October 1899), 5223/00 (accepted on 21st July 1900) and 14123/00 (accepted on 12th January 1901) all protected 'Improvements in Automatic Firearms'—a pistol and rifle in 1899, and improved pistols in 1900. British Patent 19839/1901, with Georg Roth, was

sought on 4th October 1901 and accepted on 10th April 1902 to protect a self-loading rifle design.

¶ Later patents granted to Karel Krnka alone included 13946/09 ('Improvements in Automatic Firearms', sought on 14th June 1909 and accepted on 31st March 1910) and 13742/09 ('Improvements in Cartridge Cases for Firearms of all Kinds', sought on 11th June 1909 and accepted on 28th April 1910). An application was made on 11th July 1913 for what was to become Patent 16014/13, 'Improvements in Cooling and Lubricating Apparatus for Automatic Firearms', accepted on 30th October; 16801/13, 'Improvements in Automatic Firearms', was sought on 22nd July 1913 and accepted on the first day of 1914; it protected a bolt-type locking mechanism. Krnka's last British Patent, 2105/15, was accepted on 9th February 1916 exactly a year after the application had been submitted. It protected 'Improvements in or relating to Breech Mechanism for Fire-Arms' seeking to avoid distortion or damage caused by the expansion of the cartridge case during firing.

¶ Karel Krnka's Swiss patent 2285 of 30th September 1890 protected a bolt-action magazine rifle; 6313 of 15th August 1893 (with Hebler), 16513 of 30th November 1898 (with Roth) and 17979 of 15th October 1899 (with Roth) all protected projectiles.

Krnka Sylvestr or 'Silvester' Krnka, born on 31st December 1825 in Velký Bor, near Horazdvice in Bohemia (then a part of Austria-Hungary), was apprenticed in his youth to the Viennese gunmaker Nowotný before starting out on his account in Volyn in 1848. A move to the Michl district of Prague occurred in 1871. Krnka is remembered largely for a series of single-shot rapid-loading rifles (*Schnellade-Gewehre*) dating from 1849–76, and also for the successful conversion system applied in the late 1860s to hundreds of thousands of Russian rifle muskets. His cartridge designs were also renowned in their day. However, in spite of collaborating with his better-known son Karel (above), Sylvestr Krnka was never able to offer the Austro-Hungarian authorities a successful small-calibre repeater. His bolt-action rifles were protected by a variety of patents, including U.S. 386638 of 24th July 1888 ('Magazine Fire-Arm', sought on 10th November 1887) and 441673 of 2nd December 1890 ('Straight-Pull Breech-Loading Gun', sought on 13th February 1889 and duly assigned to the Krnka Repeating Rifle Co. Ld of London). Both of these patents were granted jointly with his son Karel (above). Sylvestr Krnka died in Prague on 4th January 1903.

Krnka Repeating Rifle Co. Ltd: assignee of several patents. See 'Krnka rifles'.

Krnka rifles Sylvestr Krnka's first breechloading design, perfected in 1849, was apparently built on the basis of an Austrian rifled musket adapted by cutting away part of the breech and adding a transverse bar-like locking block—precursor of the American →Joslyn—in a large bronze receiver. A small handle on the right side lifted the locking bar up and to the left to give access to the chamber. This 1849 *pattern* was followed by a series of guns of the same general type. The earliest examples lacked positive breech-locking features,

but later variants were examples were more sophisticated: interlocks were added between the hammer and locking-bar, to prevent the breech opening prematurely, and many individual components were improved. Krnka rifles were used in Montenegro in the mid-1860s. They had side-action cap locks, plain straight-wrist stocks, and leaf-and-slider rear sights. A greatly improved pattern was adopted in Russia in 1869.

→ The *Schnelladegewehr* or 'rapid-loading rifle' combined the operating lever and hammer, so that pressing the tip of the lever retracted the striker (which had been locking the breech shut) and simultaneously raised the breech-block until it sprang open automatically. Opening the lever cocked the striker. A new cartridge could be placed in the chamber, and the breech-locking bar was simply pressed shut against its spring. Some *Schnelladegewehre* were converted from Russian rifle-muskets or Austrian Werndls; others were specially built for trials. An actuating lever usually lay on the right side of the breech in front of the trigger guard, but some guns relied on knobs on side-hammers to trip the breech. The perfected *Schnelladegewehr* developed in 1874–7, perhaps inspired by the British → Soper, relied on a combination of the operating lever and the breech-bar. The handle on the right side of the breech was pulled back to disengage a retaining notch, then allowed to rise with the locking bar against the pressure of the breech-spring. A spent case was expelled during the opening stroke, a new cartridge was inserted in the chamber, and the handle and breech-bar were pushed back to the locked position.

¶ The *Schnelladegewehr* failed to excite military interest in Austria-Hungary, where commitment to the drum-breech Werndl was already being challenged by magazine rifles. Even Krnka realized that the days of single-shot weapons were drawing to a close, and abandoned the lifting-block system in the late 1870s.

¶ Sylvestr and Karel Krnka promoted a bolt-action gun in 1887–9, featuring a detachable box magazine and the operating handle mounted on a sleeve at the rear of the action. Protected by DRP 43875 of 29th September 1887—*Neuerung an Repetirgewehren mit Kolbenverschluss*—and 48031 of 15th November 1888 (a *Zusatzpatent* or 'amendment' to 43875), this gun was subsequently greatly refined, but, unfortunately, Österreichische Waffenfabriks-Gesellschaft and Ferdinand von Mannlicher had such an iron grip on Austro-Hungarian ordnance affairs that the Krnka rifle—despite its merits—had little chance of success. The original rifles had a patented 'safety extractor' in the form of a 'V'-spring which could remove a spent case if the regular extractor failed; they also had detachable box magazines containing five, ten, fifteen or even twenty rounds.

¶ The Krnka Repeating Rifle Co. Ltd was registered in London in 1888 to promote rifles being tested in Russia and Romania. These included *Rifle No. 1*, a two-lug straight-pull action with a five-round staggered-row magazine; *Rifle No. 2*, similar but with three locking lugs; the turnbolt *Rifle No. 3*; and *Rifle*

No. 4, which was apparently a variant of No. 2. The guns were all loaded from chargers, which were thrown clear when the bolt was closed. The magazine follower doubled as a hold open. A lever could be released to drop the magazine, serving as a cut-off to allow the rifle to be used as a single-loader.

¶ The London venture was short-lived, closing in 1891. The perfected Krnka bolt-action rifle of the mid-1890s was too complicated to succeed. It had a large locking-lug on a separate bolt head and a rib bearing on the receiver bridge. The bolt handle was still mounted on a sleeve, the striker was unusually long (probably contributing to a very slow →lock time), the detachable box magazine could be loaded from chargers, and the cut-off or magazine-release catch was protected by a small bow ahead of the trigger guard.

Kromar Konrad [Edeler von] Kromar; Austria-Hungary. See 'Mannlicher'.

Krone: see also 'Crown'.

Krone A brand name found on shotgun cartridges loaded by →Cramer & Buchholz prior to 1914.

Krone Found on a top-lever cocking spring-and-piston air pistol made in the late 1930s by →Moritz & Gerstenberger. It was basically a repeating version of the →Zenit.

Kropatschek Alfred [Ritter von] Kropatschek, born in Bielitz in Schlesien on 30th January 1838, entered the Pest military academy in 1856. Rapidly proving his abilities as an organiser after graduating, Kropatschek was appointed to the Austro-Hungarian artillery commission (subsequently the Militär-Technische-Kommitée) in 1866–74. In addition to lecturing, he supervised the introduction of the →Gasser revolver in this period and wrote textbooks including *Handbuch für die kais. kön. Artillerie* (1873). Knighted in 1870 for his work, Ritter von Kropatschek patented a bolt-action rifle on 2th November 1874. This tube-magazine weapon was highly successful in France, forming the basis of the →Lebel, but failed to enter Austro-Hungarian service in quantity. Promoted to the rank of general in 1890, Kropatschek became inspector-general of artillery in 1895. Much decorated and greatly respected for his administrative work, he died in retirement in Lovrana in 1911.

Kropatschek rifle Prototypes of this bolt-action repeater were submitted to the Austro-Hungarian authorities on 24th September 1874. The action was based on the 1871-type German Mauser, using the bolt rib to lock against the receiver, and had a →Vetterli-type tube magazine in the fore-end beneath the barrel. By 1876, the Kropatschek was being declared as suitable for adoption and a gendarmerie carbine was adopted in 1881.

¶ Leopold →Gasser of Vienna patented a spring loaded loading gate in 1879, by adapting existing Winchester patterns, and added it the Gasser Kropatschek rifles tested in Austria-Hungary in the early 1880s. Substantial numbers of 11×58 M1881 Kropatschek rifles were then issued for field trials with the Austro-Hungarian army. Made by Österreichische Waffenfabriks Gesellschaft, Steyr, in 1880–2, they were conventional tube-magazine

repeaters locked by the bolt rib abutting the receiver ahead of the bridge. However, the rifles were withdrawn after trials had been completed; survivors were apparently converted for navy use in the 1890s. The advent of the box magazine restricted distribution—excepting in France, where the popularity of the Mle 1878 navy Kropatschek in Indo-China and Equatorial Africa eventually created the →Lebel.

- krq** Used by Emil →Busch AG of Rathenow on optical equipment made for the German armed forces during the Second World War.
- KS** An abbreviation associated with guns stocked in synthetic →Kevlar, including the →Remington M700 and the →Winchester Model 70.
- ksb** Found on small-arms ammunition components made in 1942–4, under German supervision, by Manufacture Nationale d'Armes de Levallois, Levallois Perret, France.
- KSG** Possibly found in the form of a monogram: associated with the products of Eduard →Kettner, Köln–Suhler Gewehrfabrik.
- KSM:** found on U.S. military firearms and accessories. See 'Kelley S. →Morse'.
- KT** *superimposition-type monogram with neither letter prominent*. Probably correctly interpreted as 'TK' (q.v.); associated with Theodor →Kommer of Zella-Mehlis, Germany.
- KT**, *an encircled cursive linear monogram with 'J' slightly dominant*. Interpreted more accurately as 'KJ' (q.v.), this may be found on revolvers made in Spain prior to 1914.
- Kufsteiner Gerätebau** [und Handelsgesellschaft mbH]. See 'Voere'.
- Kugler** Adolphe Kugler; Kingston, New York State. This U.S. gunsmith, the son or possibly brother of Albert Kugler (below), was listed in local directories for 1862–4. He is known to have made spring-and-piston →Gallery Guns.
- Kugler** Albert Kugler; Kingston, New York State. This maker of cap-lock firearms and spring-and-piston →Gallery Guns worked at 43 North Front Street from 1857 until 1860. See also 'Adolphe Kugler', above.
- Kuhles** Gottlieb Kuhles Witwe, of Albrechts bei Suhl in Thüringen, founded in 1850, was still being listed in 1940 as a maker of gun parts and haberdashery items (*Kurzwaren*).
- Kührt** Otto Kührt; Zella Mehliis in Thüringen, Germany. Listed in 1930 as a master gunsmith.
- Kulikov** Lev Leonidovich Kulikov was born in Tula in 1931, entering the S.I. Mosin Tula Mechanical-Technical College in 1946. Drafted into the Soviet Army in 1952–7, Kulikov then entered a design bureau and has since contributed to a variety of firearms-related projects. These have included the →PSM pistol and sporting guns.
- Kummer** E. Kummer of Suhl in Thüringen, Germany, was listed as a gunsmith in 1920–32.
- Kuralt** L.L. Kuralt, a government employee, accepted firearms and accessories for the U.S. Army in 1905–10. They were identified by his LLK markings. See also "U.S. arms inspectors' marks".

Kurbelspanner A German-language term applied to airguns, generally of →Gallery Gun form, which are cocked by winding back the piston with a crank (cf., →*Bügelspanner*). Popular in central Europe prior to 1914, they were still being made in small numbers in 1939.

Kurz German for 'short', used to identify short rifles (*Kurzwaffe*) or chamberings for the 9mm Kurz (9mm Short, .380 ACP) pistol cartridge.

Kuvert ['The']. Associated with shotgun cartridges sold by Charles S. →Rosson of Norwich, this tradename is believed to be a corruption of 'Covert'.

Kwantung arms factory: see 'Mauser'.

Kyblack ['The']. A shotgun cartridge, loaded with black powder, made in Britain by →Kynoch Ltd, prior to the acquisition of the company by Explosives Trades Ltd in 1918, and thereafter by →Eley Kynoch Ltd. See also 'Kynoid'.

Kynčl Josef Kynčl, an engineer employed by →Janaček, was responsible for the experimental ZJ481 rifle or AK (*Automat Kynčl*) tested by the Czechoslovakian army in 1949. One pattern had a conventional gas-piston system; another led gas directly back to impinge on the bolt. However, the competing →Kratochvíl ČZ 493 was ultimately preferred.

Kynoch Limited of Witton, Birmingham, Warwickshire, was founded in 1862, when George Kynoch bought out the existing businesses of Pursall & Phillips, percussion-cap makers of Witton (near Birmingham). A contemporaneous advertisement identified 'Kynoch & Co. (Late W. Pursall & Co.), Contractors to the [British] War Department and the Turkish Government, Patentees and Manufacturers of Percussion Caps, Military and Sporting Ammunition' trading from the Hampton Street premises. Kynoch & Co. became a limited company in 1884, as 'G. Kynoch & Co. Ltd', but George Kynoch left the company in 1889 and died two years later. However, business prospered and 'Kynoch Ltd' was formed in 1897. Kynoch was a prolific producer of ammunition, including sporting rifle and shotgun cartridges made under a variety of brand names, including: Bonax, C.B. or CB, Deep Shell, →Kyblack, →Kynoid, Nitro Ball, Nitron, Opex, Paradox, Primax, Sallinoid, Swift, Tellax, Triumph and →Witton. Cartridges were also sold marked PATENT 2090, referring to British Patent 2090/86 of 1886 protecting the cartridge construction. Kynoch's independence lasted until November 1918 when, together with Eley and many other interested parties, it became a part of Explosive Trades Ltd (which itself became 'Nobel Industries Ltd' in 1920).

¶ In 1926, however, the business was sold to Imperial Chemical Industries and ammunition production was thereafter concentrated in the Lion Works in Witton. The Eley factory in Edmonton was closed. Many of the pre-1918 Kynoch brand names were subsequently perpetuated by →Eley Kynoch Ltd, though the post-amalgamation origin (at least on cartridges made prior to c. 1963) can often be detected by the presence of the encircled ICI trademark in the headstamps. In addition to sporting rifle ammunition and shotgun cartridges, Kynoch made the →Swift air rifle to the patents granted in 1906 to George →Hookham and Edward →Jones, and also a number of projectiles.

The →Mitre was a slug for smooth-bores, while the Lion, Match and →Witton were diablo pellets.

Kynoid ['The']. A shotgun cartridge made by →Kynoch Ltd prior to the acquisition of the company by Explosives Trades Ltd in 1918. It contained smokeless propellant (cf, 'Kyblack').

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