



# THE DIRECTORY: G–GZ

Last update: May 2018

- G and crossed pistols.** A trademark associated with spring air and other guns made by →Eisenwerke Gaggenau of Gaggenau. See also 'EG'.
- G in the form of a shield-shaped letter, often encircled.** Used c. 1938–45 by →Gustloff-Werke of Suhl, on products which included small-calibre sporting rifles and semi-automatic pistols.
- G often encircled; a →headstamp** found on .22 rimfire cartridges associated with →Brown & Brothers of New York, but possibly made by →Gevelot.
- G A →headstamp** associated with →Gamble Stores. The ammunition was made elsewhere in the U.S.A.
- GA superimposition-type monogram.** Correctly interpreted as 'AG' (q.v.), used by Armand →Gavage.
- ga** Used by →Hirsch Kupfer- und Messingwerke AG of Finow/Mark on German military small arms ammunition and components made in 1940–5.
- Gabbett Fairfax** Hugh William Gabbett Fairfax; Leamington Spa, Warwickshire. Best known as the designer of the →Mars pistol, made in small numbers by →Webley & Scott early in the twentieth century, this English engineer was also associated with the development of semi-automatic rifles. Among his patents were two granted in the U.S.A., 600066 of 1st March 1898 and 684055 of 8th October 1901, but none of the guns were successful and it is believed that Gabbett Fairfax was bankrupted c. 1902. The →Mars Automatic Firearms Syndicate was formed in January 1904 to exploit Gabbett Fairfax's patents, but lasted just three years before itself entering liquidation. The inventor was active as late as 7th January 1919, when British Patent 141128 was granted to protect an endless-chain magazine for auto-loading rifles.
- Gabillot;** rue Désirée 36, Saint Étienne, France. Listed in 1892 as a gunmaker.
- Gabilondo y Compañía;** Elgoibar, Spain. This gunmaking business was responsible for the →Danton and possibly also for the →Veritable Mosser Superior. More recently, it has been associated with the 'Llama' series of automatic pistols, including the compact 6.35mm Model 17 and Model 18.
- Gabilondo y Urresti** Founded in Guernica as 'Gabilondo cousins', this Spanish gunmaking business became 'Gabilondo y Urresti' in 1909. Developers of the →Ruby-pattern pistols made in great numbers for the French (and subsequently also the Italian) army during the First World War, the company was given an open-ended contract for ten thousand pistols monthly in the Spring of 1915; this was subsequently trebled, forcing Gabilondo to recruit five additional contractors—SA Alkartasuna, Fábrica de Armas of Guernica; Beistegui Hermanos of Eibar; Eceolaza y Vicinai of Eibar; Hijos de Angel Echeverria of Eibar; and Bruno Salaverria y Cia of Eibar. Production is believed to have totalled 150,000–200,000 by November 1918. A move to

Elgoeibar occurred in 1922; there, until the early 1930s, 6.35mm, 7.65mm and 9mm Short blowback pistols based on the FN-Brownings were made under names such as →Ruby, →Danton and →Bufalo. A variant of the Ruby with a large capacity magazine (20–22 rounds) and often also a selective-fire capability, was made in small quantities in 1927–33 for export to China. At this time, however, a decision was taken to introduce copies of the locked-breech Colt-Browning. The first gun, the *Llama Modelo IV*, appeared commercially in 1931. Gabilondo also made revolvers on the basis of the →Smith & Wesson swinging-cylinder system. Llama pistols will often be found with the names of distributors such as →Mugica and →Tauler, and have been sold in the U.S.A. by →Stoeger Industries of South Hackensack. See also 'Llama pistols', 'Llama revolvers'.

**Gabion aîné**; rue Saint Denis 5, Saint Étienne, France. Listed in 1879 as a gunmaker.

**Gabion jeune**; rue Valbenoîte 17, Saint Étienne, France. Listed in a 1879-vintage directory as a gunmaker.

**Gabion Fournel**; rue Badouillère 22, Saint Étienne, France. Listed as a gunmaker in 1879.

**GAC** *concentric-type monogram, with the 'G' and 'A' prominent*. Found on Spanish break-open and swing-cylinder →Smith & Wesson-type revolvers, made in Eibar by →Garate, Anitua y Cia.

**G.A.G.** Found on the receivers of 11mm-calibre →Mauser-action carbines: *Grenz-Aufseher-Gewehr*, signifying guns made in the early 1880s specially for the German border-guard and customs units by →Haenel and →Schilling of Suhl. Sometimes erroneously listed as 'Grenz-Aufsichts-Gewehre', they have bayonet lugs on the right side of the nose cap..

**gal** On German machine-gun, rifle- and similar components made by →Wagner & Co. GmbH of Mühlhausen in Thüringen during the Second World War.

**GAL** Found on U.S. military firearms and accessories. See 'George A. →Lawrence'.

**Gal** Uziel Gal, an Israeli army officer and engineer, was responsible for the →Uzi submachine-gun. Design work began in 1949 and was completed in 1951, when the perfected prototype was fired.

**Galand** Charles François Galand, a Parisian gunsmith, was the co-designer with A. →Sommerville of a series of ejector levers for revolvers (British Patent 3039/68 of 5th October 1868) and a lock mechanism that could be dismantled without tools (British Patent 2308/72 of 1872). Galand also received U.S. Patent 140028 of 17th June 1873, protecting the 'frame and stock for revolving firearms' and continued trading until 1889. A 1885-vintage catalogue records the Paris workshop address as 280 rue d'Hauteville—it had been at no. 13 in 1872—and the existence of an office at 21 Whittall Street, Birmingham. Maison Galand was then making muzzle-loading shotguns, single-barrelled break-open shotguns or *Fusils bascules*, double-barrelled shotguns and Express Rifles, and a selection of revolvers.

**Galaš** The engineer Otakar Galaš, born in Syrovice (Bohemia) in December

1904, joined →Československá Zbrojovka of Brno after graduating in 1927 from the local state technical school. As an integral part of the small-arms research department, Galaš visited many countries where Czechoslovakian guns were being sold. After escaping to Britain in February 1940, after the Second World War began, Galaš helped to organise production of →Bren and →Besa machine-guns and Oerlikon cannon as part of the 'Brno Arms Co. Ltd' of London. He returned to Czechoslovakia in 1945 to resume his pre-war career. Galaš has been credited with a series of sniper rifles, sporting guns and telescope-sight mounts, including the →Mauser-type ZG 47 series and the vz. 54 military sniper rifle.

**Gale** Edward Gale & Sons; Barnstaple and Bideford, Devon. The name of this English country gunmaking business has been found on a selection of shotgun cartridges handled under brandnames including →Flag and →X.L. Trade directories list premises in Joy Street, Barnstaple, and at 2 & 3 Mill Street in Bideford.

**Galef** J.L. Galef & Son, Inc.; New York City. Distributors of guns and sporting goods, handling, amongst others, →BSA rifles.

**Galesi** Rino Galesi, 'Rigarmi', of Collobeato/Brescia, Italy, made a range of compact blowback pistols in .22 and 6.35mm.

**Galesi** Industria Armi Galesi; Collobeato/Brescia. This Italian gunmaking business produced a series of 6.35mm calibre semi-automatic pistols, known as the models of 1920, 1923 and 1930.

**Galil rifle** An Israeli derivative of the →Kalashnikov, developed in the late 1960s by way of the Finnish →Valmet m/62 to replace the FAL. Named after the engineer responsible for the transformation, the Israeli rifle entered series production in 1971. However, the Galil has never entirely replaced U.S. M16-series (→Armalite) rifles in military service. The basic patterns include the *Assault Rifle*, *Machine-gun* ('ARM'), with a bipod and a carrying handle; the *Assault Rifle* ('AR'); the *Short Assault Rifle* ('SAR'); and the *Micro Assault Rifle* ('MAR'). Excepting the MAR, in 5.56mm only, the guns are all made by →Israeli Military Industries of Ramat ha Sharon in 5.56mm or 7.62×51. A *Galil Sniper* has also been offered, with a heavy barrel and a muzzle brake/compensator, and a semi-automatic police/sporting gun was introduced in 1987 in a one-piece hardwood stock as the *Hadar II*. Excepting the Hadar, virtually all Israeli Galils have been made with folding, but otherwise conventionally-shaped wood butts. A copy of the Galil, differing largely in the elongation of the butt, was adopted by the South African forces in the 1982 as the *Rifle Type 4* ('R 4'). Made by →Lyttleton Engineering Works of Pretoria, now known as →Vektor, the R4 replaced the FN FAL in military service. The original full-length rifle has since been supplemented by the short R 5 and ultra-short R 6 derivatives. Galil-type rifles have also been made in Italy and Sweden, by Vincenzo →Bernardelli (as the 'SR-556') and →Forenade Fabriksverken ('FFV-890C'). Neither gun was successful in its trials, losing to the →Beretta AR-70 and FN FNC respectively.

**Galilean sight** A primitive form of optical sight which was briefly popular during the First World War. A refractor sight, not Keplerian. The image and objective lenses were mounted separately, as far apart as possible, but the delicacy of the unprotected components was such a great weakness that the stronger tube type 'telescope sights' were soon preferred. The principal British Galilean sights were the Gibbs, Lattey, Martin and Neill patterns. The Neill sight, the subject of British Patent 1850/15 of 1915 granted to Thomas Caldwell of Belfast, being alternatively known as the 'Barnett' or 'Ulster'.

**Gallager** Mahlon J. Gallager of Savannah, Georgia, U.S.A., was granted a patent in July 1860 to protect a breech-loading carbine.

**Gallager carbine** Made in Philadelphia by →Richardson & Overman, this gun had a barrel that moved forward and tipped to give access to the chamber. The breech lever doubled as a trigger guard. The action would have presented fewer problems had not Gallager positioned half the chamber in the standing breech and the remainder in the barrel. Troops hated the Gallager, but the Federal government acquired nearly 23,000 of them. The .50-calibre side hammer cap-lock pattern was supplemented by five thousand 'new pattern' guns chambering .56–50 Spencer cartridges, though these were delivered too late to see service.

**Gallagher** William F. Gallagher, a captain in the U.S. Army, accepted military small arms marked 'WFG'. They date from 1940–1. See also "U.S. arms inspectors' marks".

**Gallery Gun** Sometimes associated with any type of →Saloon Gun, this term is often applied more strictly to classify distinctive spring-and-piston airguns originating in central Europe in the 1840s. They retained popularity until the First World War in Germany and Bohemia, and enjoyed a brief vogue in the U.S.A. in the decade that followed the Civil War of 1861–5. Scant attention has yet been paid to the cataloguing of European guns, though they are invariably either crank-wound (→*Kurbelspanner*) or cocked by a lever, pivoting in the butt-toe, which is customarily formed to double as the trigger guard (→*Bügelspanner*). The barrels tip downward—or, very rarely, turn laterally—to expose the breech. The guns made in the U.S.A., conversely, have been subjected to detailed scrutiny. They were divided into five groups by Eldon Wolff, writing in *Air Guns* (1957), but his categorisation was based more on aesthetics and constructional details than cocking systems. Crank-wound 'New York City' guns were made by David →Lurch, August →Mock and probably others, with essentially similar 'New England' or 'Massachusetts' types being made, as far as we know, only by Selmar →Eggers of New Bedford and Joseph →Tonks of Boston. Combinations of cocking-lever and trigger-guard were incorporated in 'St Louis' guns made in Missouri by John →Blickensdoerfer, Gustavus Brecht and Edward Linzel; similar patterns were made in New York. A third, perhaps confined to Charles →Bunge of Geneva, relied on a separate cocking lever which pivoted on the right side of the frame. Patented in 1869, the Bunge gun also embodied a revolving-cylinder magazine

- replenished (at least on the patent drawings) from a stationary hopper.
- Gallia** A 6.35mm six-shot →Browning-type pocket pistol made in France prior to 1940 by →Manufacture d'Armes des Pyrénées. The slides usually display FABRIQUE À ST. ÉTIENNE in addition to the trade name.
- Gallus** Compact Browning-type automatic pistols made by →Retolaza Hermanos of Eibar; 6.35mm, six rounds, hammer fired. The guns apparently date from the 1920s.
- Gallyon & Sons;** Cambridge, King's Lynn and Peterborough. Marks applied by this English country gunmaking business will be found on sporting guns, ammunition and accessories. These have included Eley and Eley-Kynoch made shotgun cartridges offered under brand names such as 'Camroid', 'Granta', 'Granton', 'Kilham', 'Lynton' and 'Sandringham'.
- Galopin** Alexander Galopin; Belgium. See "Fabrique Nationale d'Armes de Guerre" and "Manufacture d'Armes de Paris".
- Galway Arms Company;** Medbourne, Leicestershire. This British engineering business was originally renowned for its sound moderators, introduced in 1964, and for making the first silencers intended specifically for air rifles. Galway also made the →Fieldmaster pneumatic/gas powered rifle, designed by Jack & John Fletcher and introduced commercially in 1983.
- GAM** Found on U.S. military firearms and accessories. See 'George A. →MacGruder'.
- Gamage** A.W. Gamage [Ltd]; Holborn, London EC. The name of Gamage is often associated with toys, but the company also sold large numbers of sporting guns, accessories and ammunition—particularly prior to the 1930s. These included shotgun cartridges marketed under the brandnames →A.W.G., →Holborn and →Referee, as well as the spring-and-piston airguns marked →Holborn.
- Gamatic** A barrel-cocking repeating spring-and-piston air rifle, with a tube magazine above the air cylinder and a mechanical elevator system behind the breech, introduced by →El Gamo in 1970. It was sold in Britain as the →ASI 'Paratrooper Repeater'. It is basically a magazine-fed version of the Gamo 68.
- Gamba** Renato Gamba; Gadrone Val Trompia. A designer of shotguns and accessories, best known for the range of guns made by →Società Armi Bresciane but also for the 'Gamba Modell' →Parabellums made by Mauser Jagdwaffen GmbH in the late 1970s. Gamba also sold a version of the Mauser →HSc under his own name; the standard guns chambered the 7.65mm Auto Pistol cartridge, but the 'HSc Super' was available only in 9mm Short. Most Gamba pistols will have either the distinctive 'eagle/RG' trademark, with the lettering in a decorative hand drawn style, or an 'eagle above Gr/rG' device.
- Gamble Stores** A large retailing organisation established throughout the U.S.A. Sporting guns and ammunition have been found with its marks, which included a simple 'A' and 'G' →headstamps, or an 'Airway' (or 'ABAirway') brandname. Ammunition may be made by the →American Cartridge Company, the →Federal Cartridge Company or the →Winchester Repeating

Arms Company.

**Game** Usually found as 'The Game': a British shotgun cartridge, marked by, among others, George →Bate of Birmingham and →Stanbury & Stevens of Exeter. It seems to have been made by →Eley-Kynoch.

**Game & Gun Mart:** see "Clyde's Game & Gun Mart".

**Game Shooter** Patented in June 1859 by John →Couch and Henry →North, this was basically a six-barrel pepperbox with a single nipple. The barrel cluster could be slid forward against the pressure of a spring in the central axis tube until it was held open by the sear. A volley of shots was fired by pulling on the muzzle rod or pressing the trigger, which enabled the trap gun to double as a personal defence if required. The Game Shooter was hung from a branch, fence or similar anchor by a cord attached to the backstrap ring. Another cord was run from the muzzle rod to bait. When an animal tugged the bait strongly enough, the muzzle rod released the sear, the barrel cluster sprang backwards, and the gun fired. The earliest guns—with an unprotected trigger—were made by →North & Savage in Middletown, Connecticut, in 1859–60. Work seems to have been stopped by the Civil War, but began again about 1866. North & Savage had by then become the →Savage Revolving Firearms Company. Post-war guns had flat-sided frames, sheathed triggers and a prominent top latch. A few chambered rimfire ammunition, but caplocks seem to have predominated. Work seems to have ceased about 1870.

**Gamemaster** Guns made by the →Remington Arms Company.

**Gamemaster** Also known as the 'Model 141A', this centrefire slide-action sporting rifle was made from 1936 until 1950. Replacing the Model 14A, made only for the rimless .30, .32 and .35 Remington cartridges, it had a five-round tube magazine beneath the barrel, a pistol-grip butt, and a ribbed fore end.

**Gamemaster** Also known as the 'Model 760' ('760A' from 1953), this slide-action sporting rifle dates from 1952–82. A departure from the previous designs, it was locked by rotating lugs on the bolt into the barrel extension and had a detachable box magazine. It could be distinguished from the Model 740 auto-loader by the fore-end, which exposed several inches of the barrel and operating rods. Chamberings ranged from .223 Remington to .35 Remington. Several variants have been made, including the 760ADL (1953–63), with better quality woodwork; the 760BDL (1953–82) with high-gloss polyurethane finish on the woodwork and basket weave checkering; and the *Model 760 Carbine* (1962–80), made only in .270 Winchester, .280 Remington, .30–06 and .308 Winchester. See also 'Bicentennial', 'Peerless', 'Premier' and 'Sesquicentennial'.

**Gamo** A brand name associated with the products of Industrias →El Gamo, the Spanish airgun-making business, but specifically applied to the 'Gamo 68' barrel cocking spring-and-piston rifle introduced in 1968 and known in Britain as the →ASI 'Paratrooper'. Several versions of the basic design have been made, including the →Ranger (with a folding stock), until the designation was advanced to 'Gamo 85' in the late 1980s.

**Ganeard** W. Ganeard. This government arms inspector, working at the beginning of the twentieth century, accepted Colt revolvers marked 'WG'. See also "U.S. arms inspectors' marks".

**Gansevoort** Guert Gansevoort, a commander in the U.S. Navy active from c. 1850 until the beginning of the American Civil War in 1861, accepted Colt, Remington and Whitney cap lock revolvers marked 'GG'. See also "U.S. arms inspectors' marks".

**Garage Gun** This was a simple emergency-pattern light machine-gun, said to have been made during the early stages of the Second World War in accordance with DD/E/2285 ('Design Department, Enfield, drawing no. 2285'). Details of its construction are unknown, though it has been theorised that the Garage Gun and the →Besal were one and the same.

**Garand** John C. Garand. One of the best known of all firearms inventors (though by no means the most prolific), Jean Garand was a French Canadian, born in 1887 in Saint Rémi, Quebec. After completing an apprenticeship as a millwright, Garand moved to the U.S.A. in 1912 and founded a small engineering business. He anglicised his name on accepting U.S. citizenship in 1914 and, when the First World War began, turned his attention to firearms. A design for a machine-gun brought him to the attention of the U.S. military authorities in 1916 and employment in the →Springfield Armory design office was eventually offered in 1919. Garand quickly rose to become a principal ordnance designer, remaining at Springfield until retiring in 1953. He died in 1974. The eponymous semi-automatic rifle remains his greatest work.

**Garand rifle** The original 1920 pattern primer-actuated rifle was replaced by the improved M1921 and M1922 rifles. Tests undertaken against the Thompson Auto Rifle PC in the summer of 1925 showed that the Garand had greater promise. The .30 M1924 rifle was tested at Fort Benning against ten Thompson Auto Rifles in 1926, but the report was inconclusive. Subsequently, however, the construction of the first gas-operated Garand was authorised.

¶ Trials of were undertaken throughout 1928 against .30 primer-actuation Garands, .30 Thompson Auto Rifles and .276 T1 Pedersen rifles, plus a .256 Bang, but the .30 calibre Garand was abandoned in February 1929 in favour of the .276 T3 pattern. However, after tests undertaken throughout the summer of 1929, work on the .30 version began again. The first .30 T1E1 Garand appeared in the autumn of 1931, but broke its bolt on trial. It was successfully retested after extensive repairs, to be followed by the .30 T1E2 in March 1932.

¶ The *Rifle, Semi-Automatic, Caliber .30, M1*, was adopted on 9th January 1936, though delivery of the first series-made rifles was delayed until the late summer of 1937. Work was still underway to cure minor teething troubles when the Japanese attack on Pearl Harbor began U.S. participation in the Second World War. Only Springfield Armory and Winchester were making rifles at this time.

¶ Production ceased in 1945, after the end of war in the Pacific, only to begin again in 1951 during the conflict in Korea—when contracts were placed with

→Harrington & Richardson and the International Harvester Corporation— and finally ended in May 1957 after more than six million guns had been made. Springfield Armory alone contributed more than 4.6 million to the total. Production had been licensed to Pietro →Beretta in 1952, allowing a string of derivatives (especially the BM-59 series) to be manufactured into the 1970s. Italian-made Garands will be found with Indonesian, Nigerian and many other markings.

¶ An automatic adaptation of the M1 Garand with a bipod and a detachable twenty-round box magazines, the T20, was tested in 1944. The perfected T20E2 was approved in 1945 and 100,000 were ordered for service in the Pacific, though hostilities ended before any could be made.

¶ The M1 Garand was replaced in U.S. service by the M14, a 7.62×51 derivative known during development as 'T44'. After successful testing in competition with the Belgian FN →FAL ('T48') and the British EM-2, the T44E4 was standardised as the *Rifle 7.62mm M14* on 1st May 1957. Guns were made by Springfield Armory, Harrington & Richardson, the Winchester-Western Division of Olin Industries and Thompson-Ramo-Woolridge Inc., until work stopped in favour of the →ArmaLite M16 and M16A1 in 1964. Production in North America is estimated to have reached about 1.4 million, but the production equipment was sold to Taiwan in 1968 and production continued in the Far East for many years. M14 and M21-type rifles could still be obtained for many years from →Springfield Armory, Inc., of Geneseo.

¶ The *M15 heavy rifle* was a variant of the standard M14, with a special barrel, a bipod and a shoulder rest on top of the butt. It was not successful, and only a few hundred had been made when the project was abandoned in favour of the *M14E2* (standardised as the *M14A1* in 1960). The *M14A1* was a selective-fire version of the M14, credited to Captain Durward Gosney of the U.S. Army Infantry Board. It could be recognised by a folding forward handgrip, a vertical pistol grip behind the trigger, a stabiliser mounted over the compensator, and a bipod with adjustable legs. The *M14 NM* of 1963 was a special 'National Match' version, specially selected for accuracy, with fibreglass bedding and refined sights. It was successful enough to encourage the introduction of the *M21*, adopted in 1975, which remained the standard sniper rifle of the U.S. Army until superseded in the 1990s by the Remington Model 24 Sniper System.

¶ Among the best sources of information are Julian S. Hatcher, *The Book of the Garand* (National Rifle Association of America, 1948); E.J. Hoffschmidt, *Know Your M1 Garand Rifles* (Blacksmith Corporation, 1975); Bruce N. Canfield, *A Collector's Guide to the M1 Garand and the M1 Carbine* (Andrew Mowbray, 1988); and R. Blake Stevens, *U.S. Rifle M14* (Collector Grade Publications, 1991). See also 'Japanese Garand'.

**Garanta:** see 'Britannia'.

**Garate Hermanos;** Ermua, Spain. The →Cantabria pistol, made by this gunmaking partnership, was often marked as a product of Fabrique d'Armes

de →Grande Précision.

**Garate, Anitua y Compañía;** Eibar, Guipuzcoa, Spain. Makers of the →Sprinter and →Vesta automatic pistols, though it has been suggested that the earliest examples of the latter were made by Hijos de A. →Echeverria

**Garate y Mendibe SA** Associated with sporting firearms and airguns, trading in Trespuentes (Alva), this Spanish business may have been little more than a distributor. No guns have yet been identified from this source, but see also →Flecha.

**García Saez:** see 'Saez'.

**García Sporting Arms Corporation:** see 'Remington' and 'Sako'.

**Garden** Robert S. Garden. A London gunmaker listed at 200 Piccadilly in 1861–3 and 29 Piccadilly from 1864 to 1877. 'Robert Garden & Son' was listed at 200 Piccadilly until 1886, and then 'R.S. Garden'—the son trading alone?—from 1887 until the last entry in 1891.

**Garden** Walter Garden; Aberdeen. This Scottish gunmaker handled sporting guns and shotgun ammunition sold under the brand names →Eclipse, →Granite City and →Special Brown.

**Garden Gun:** a name given to virtually any ultra-low-powered longarm, usually (but not exclusively) smooth-bore, intended for short-range target shooting, practice or pest control. The guns are customarily light, simple, and easy to handle. Sights, if fitted, are rudimentary.

**Gardener & Company;** Chippenham, Wiltshire. This English gunmaking business is known to have handled sporting guns and shotgun ammunition.

**Gardner** Charles Gardner, a "gunmaker's manager" living at 226 St Saviour's Road, Saltley, Birmingham, was co-patentee with Leslie →Taylor of an automatic loading tap for airguns: British Patent 2863/06 of 1906. He is believed, therefore, to have been employed by Westley →Richards.

**Gardner** Henry Gardner & Company. A patent agency with chambers at 166 Fleet Street, London, acting for Alice →Argles in connection with British Patent 4168/95 of 1895.

**Gardner** William Gardner, born in 1844 in Toledo, Ohio, came to Britain after serving in the U.S. Army during the American Civil War and remained in England for much of his remaining life. His interest in firearms was evident in submissions of a magazine pistol to the British authorities in the early 1870s, in the development of the manually-operated machine-gun patented in 1874 (see below), and in a quick-firing cannon that was still unfinished at the time of Gardner's sudden death in Henley Lodge, St Leonards on Sea, Sussex, on 20th January 1887.

**Gardner Gun** Patented in 1874 by William Gardner, 'perfected' in 1876 and improved continually in 1882–4, this mechanical machine-gun was made in the U.S.A. by →Pratt & Whitney of Hartford, Connecticut. It had side-by-side barrels fired alternately by an oscillating feed. The breech mechanism consisted of a crank and a reciprocating breech-block, and the gun was fired by a hammer. As the operating crank was rotated, the lock piece moved forward

and rode over the ejector. When the breech was properly closed, the hammer was automatically released to hit the striker head and fire the chambered round.

¶ Careful attention to development gradually increased the fire rate of the basic Gardner mechanism until some of the barrels could be discarded. Eventually, single-barrel versions were made, though the earliest weapons had offered five. A hundred guns were purchased by the U.S. Navy following a successful test in Washington Navy Yard in 1879, but the Gardner did not offer sufficient improvement to displace the →Gatling.

¶ In Britain, however, the Gardner proved to be much more popular and 350 were purchased in 1884 for the Royal Navy for experiments alongside the →Nordenfelt and the Gatling. In 1885, the Machine Gun Committee finally settled on a tripod-mounted single-barrel Gardner Gun for Land Service. The gun, mount and ammunition were to form a single mule load weighing no more than 200lb. Guns were initially acquired from the Gardner Gun Company, though probably made in the U.S.A.; they were fitted on Enfield adaptations of two-wheeled Nordenfelt carriages supplied by →Temple & Company. Surviving examples of these 'Guns, Gardner, .4 inch, 2 barrel, Enfield Martini Chamber' were converted for the .45 solid-drawn Martini-Henry cartridge in the 1890s. They were still being retained for instructional purposes as late as 1912, though long since superseded in active use by the →Maxim and →Vickers Guns.

**Gardner Gun Company** [Ltd] Agents for the Gardner machine-gun, active in London c. 1882–90.

**Gardone** One of the leading Italian gunmaking centres, the town of Gardone Val Trompia (near Brescia) has been the centre of activities for manufacturers such as →Beretta, →Bernardelli and others.

**Gardone Mechanical Works:** see 'Attilio →Zanoletti'.

**Garner:** see 'Gartner'.

**Garnet:** see also 'Garnett'.

**Garnett** M. Garnett; Dublin. The name of this Irish gunmaker (of Crampton Court and later 31 Parliament Street, Dublin) has been reported on shotgun cartridges sold under brandnames such as 'Kilquick' and 'Suredeath'. Some of these prove to have been loaded by →Irish Metal Industries.

**Garnier;** rue du Chambon 5, Saint Étienne, France. Listed in 1879 and again in 1892 as a gunmaker. A 'Garnier' was also listed in 1951 at 55 rue Claude Delaroa.

**Garrett** The name of English gunmaker Frank Garrett of Evesham, Worcestershire, patentee of the Corona Wad, has been found on shotgun cartridges loaded and sold under brand names such as 'Blue Flash', 'Crimson Flash', 'D.B.H.', 'Flash Junior', 'Golden Flash' and 'Tempest'. Premises were also occupied in the Warwickshire town of Stratford upon Avon.

**Garrick** Arthur Garrick; Sunderland, County Durham (?). The name of this retailer of sporting guns and ammunition has been reported on shotgun

cartridges handled under the brand name →Sportsman.

**Garrison A** →Suicide Special revolver made by the →Hopkins & Allen Arms Company of Norwich, Connecticut, U.S.A., in the late nineteenth century.

**Gartner** J. Gartner, also listed as 'Garner'; Columbus, Ohio, U.S.A. This man was recorded by Eldon Wolff in his book *Air Guns* (1958) as a maker of St Louis pattern →Gallery Guns, but may have been no more than a retailer of guns made elsewhere.

**Garvin** John Garvin, a lieutenant in the U.S. Navy, accepted Colt Single Action Army revolvers in the mid 1870s. They were marked 'JG'. See also "U.S. arms inspectors' marks".

**GAS** Found on U.S. military firearms and accessories. See 'G.A. →Spoooner'.

**Gascoine** Gunmaker William Gascoine, also listed as 'Gascoigne', 'Gascoyne' or 'Gasquoine', is known to have made sporting firearms and pumps for air canes. He traded from Albert Street, Manchester, in 1857–69, though the 1868 directory lists an additional address at 10 Market Place. This could suggest that Gascoine succeeded to the business of 'Gascoine & Dyson' (Blue Boar Court, 1846–62; Market Place, 1854–64).

**Gas gun** A term applied to rifles and pistols which rely on something other than air to propel a projectile. The first to make a contribution was Paul →Giffard, who attempted to promote gas-guns as military weapons. Though his designs were effectual enough, and though →Colt was persuaded to invest heavily in the project, most surviving examples are 'Saloon Pistols', 'Saloon Guns' or low-power hunting rifles, often made by →Rivolier et fils of Saint-Étienne.

¶ Modern manufacturing patterns usually resemble reservoir-type airguns or replicas of well-known firearms (e.g., Colt Peacemaker, Beretta M92 pistol), but the power to propel the projectile is provided by a gas other than the mixture of gases that constitute air. Carbon dioxide (originally known as 'Carbonic anhydride') is preferred, though freon and others have been tried. The container may be an integral reservoir filled from a pressurised bottle, a replaceable cylinder, or a small 'Sparklet' bulb.

¶ The rise of competitive airgun shooting in recent years has revived interest in gaseous propellant by failing to strictly define an 'airgun'. Consequently, well-established manufacturers such as →Feinwerkbau, →Hämmerli, →Steyr-Mannlicher, →Walther and others have offered high-quality CO<sub>2</sub> competition guns alongside the more mundane 'recreational' pellet and BB-firers made in huge numbers in the U.S.A. by →Crosman and →Daisy. See also 'Airgun'.

**Gas operation** This leads a tiny part of the gas generated by burning propellant in the cartridge to operate the breech mechanism. Among the early attempts were the →Browning-designed 'Potato Digger' (q.v.), made by →Colt's Patent Fire Arms Mfg Co., which relied on a radial lever; however, the most successful designs have embodied a piston. The piston usually lies beneath the barrel, connected with the bore by a small port through which gas can bleed. Gas-operated guns are customarily simpler and easier to make than recoil-operated equivalents, as they do not need carefully machined surfaces to ensure that

the parts slide smoothly.

¶ Gas operation was impossible if ammunition was loaded with black powder, as the fouling soon clogged the bore, the gas port and the piston chamber. However, the advent of smokeless propellant late in the nineteenth century gave an impetus to the development of gas-operated automatic weapons. The →Hotchkiss was among the most successful machine-guns made prior to 1914, but virtually all modern designs are gas-operated—apart from the recoil-operated →Brownings and roller-locked or roller-type delayed blowbacks ultimately derived from the German MG. 42.

¶ Early gas-operated firearms relied on intermediate rods or levers to operate the breech (*indirect gas operation*) but, inspired by the ArmaLite series, many modern designs lead gas straight back to strike the bolt or bolt carrier (*direct gas operation*). The direct method is simpler, but more prone to fouling. See panel for additional details. See also 'blowback', 'delayed blowback', 'locked breech' 'operating systems' and 'recoil operation'.

¶ This basic principles are simple (see accompanying diagram). Propellant gas is tapped from the bore A by way of port B, striking the head of piston C before being vented to the atmosphere. Piston C, attached to a rod connected with bolt carrier D, pushes backward. This movement pulls the locking shoulder on the top surface of the bolt E from engagement with the top of the receiver F, thanks to the cam-finger G1 between the bolt and the bolt carrier.

¶ The unlocked bolt then continues backward to the limit of its rearward travel, extracting the spent case, until the return spring H reasserts itself. The bolt is then propelled back into battery, stripping a new round into the chamber, and the rear cam surfaces G2 of the bolt carrier raise the bolt back into engagement with the receiver.

**Gas Ram**, or 'gas-spring'. A term coined to describe the action of the →Theoben airgun, a patented piston-operated design in which a charge of a suitable gas (originally sodium hexafluoride but subsequently nitrogen) replaces the customary coil spring. The charge was originally sealed to prevent unauthorised tampering, but, from 1987 onward, a Schröder valve was added to allow power to be adjusted. In addition to guns made in Britain by →Theoben Engineering, gas-ram patterns have been made under licence by →Weihrauch and others.

**Gas-seal revolver** This term is applied to designs in which the breech is sealed at the moment of discharge to prevent propellant gas leaking past the cylinder/barrel joint. Among the first was an 8mm →Pieper design, produced in Belgium in small numbers from 1890 onward and possibly also licensed to Österreichische Waffenfabriks-Gesellschaft of Steyr. Some guns pushed the cartridge forward into the barrel at the moment of firing, and others, perhaps experimental, are believed to have slid the barrel backward to effect a seal. The most famous 'gas-seal' design is undoubtedly the Belgian →Nagant, patented in Britain on 20th July 1894 (no. 14010/94), adopted by Russia in 1895, which was still being made in Tula during the Second World War. This

7.62mm seven-shot solid-frame gun relied on a cam lever to press the cylinder forward over a rearward projection of the barrel; momentary expansion of the mouth of a special long-case brass cartridge-case was enough to seal the breech. The gains were not particularly great, but there is no doubt that the mechanism worked.

**Gas-spring system:** see 'Gas Ram'.

**Gas-Tight** ["The..."]. Associated with 12-, 16- and 20-bore shotgun ammunition assembled by the →New Normal Ammunition Co. Ltd of Hendon, London, from components purchased in Europe. The propellant appears to have been German-made →Walsrode Jagdpulver. A similar mark was used also by →Nobel's Explosives Company.

**Gaspard et Cie;** 4 cours Fauriel, Saint-Étienne, France. Listed in 1951 as a gunmaker.

**Gasser** Gunsmith Johann Gasser, best known for the large revolvers associated with the Gasser name, was born in Vienna on 6th June 1847 and succeeded his bother Leopold (q.v.) on the latter's death.

**Gasser** Leopold Gasser, born in Spittal am Drau (Austria) on 31st March 1836, was apprenticed to a gunsmith in the early 1850s. Striking out on his own after successfully completing his apprenticeship, Gasser moved to Vienna in 1858 and was admitted as a master of the gunsmiths' guild in 1862. The submission to the Austro-Hungarian military authorities of an open-frame revolver chambered for self-contained ammunition, in 1869, then transformed Gasser's operations from an insignificant workshop to a major small-arms manufactory. However, Leopold Gasser died in Ottakring on 9th January 1871 without ever seeing the results of his labours. He was succeeded by his younger brother Johann (q.v.).

**Gasser** L. Gasser k.u.k. Hof- und Armeewaffenfabrik, Ottakring. This gunmaking business, founded by Leopold Gasser in 1862, initially made copies of the British →Adams cap-lock revolvers, but then concentrated on revolvers of its own—which, though customarily believed to have been large and heavy, were actually made in far greater variety. Revolvers of Gasser type were adopted by the Austro-Hungarian army in 1870, and more than 100,000 had been made by 1884. However, Leopold Gasser had died in 1871, to be succeeded by his younger brother →Johann; by 1885, nearly five hundred men were being employed in Ottakring and a newly-opened foundry in Sankt Polden. Operations continued until a partnership of →Rast & Gasser commenced formally in 1903, handguns being made alongside sewing machines and associated equipment. Many Gasser-made revolvers were distinguished by nothing other than a trademark of an apple impaled with an arrow.

**Gasser-Kropatschek rifle** This was a variant of the →Kropatschek bolt-action rifle with a loading gate on the right side of the receiver which could be pressed inwards (similar to the →King-type gate associated with 1866-type Winchesters) to allow cartridges to enter the tube magazine. This system was

patented by the Viennese gunsmith Johann →Gasser in the late 1870s.

**Gat** A small push in barrel cocking .177 spring-and-piston air pistol made by T.J. →Harrington & Co. of Walton, Surrey, England, from c. 1948 until the company ceased trading on the death of its founder in 1996. The original version of the Gat lacked the safety catch found on guns made from c. 1982 onward, whilst the finishes have included baked enamel and nickel plating.

**Gates** George Gates Chicago, Illinois, U.S.A. A printer and distributor of religious pictures, postcards, statuary and relics, Gates also distributed →premium BB Guns. The →Sterling was the favoured item.

**Gatling** Richard Jordan Gatling was born in North Carolina and was widely, if unjustifiably regarded as a Confederate sympathiser on the unlikely grounds that his Cincinnati factory was near enough to the demarcation line to supply either side if required! He was granted a selection of U.S. patents, beginning with no. 36,836 of November 1862. See also 'Gatling Gun', below.

**Gatling Gun** Patented in the U.S.A. in November 1862, the original Gatling fired .58-calibre combustible cartridges inserted in integrally-capped carriers. The multi-barrel cluster had been introduced with the →DeBrame Revolver Cannon (patented in December 1861), but Gatling's was the earliest gun of its type to be made in quantity. It achieved an impressive fire rate by firing six times for each turn of the barrel cluster, though only the uppermost barrel fired.

¶ The first Gatlings leaked gas badly and proved difficult to crank. By 1863, however, .58-calibre copper-case cartridges were being used in the separate cylindrical inserts. The first six Gatlings were made by Miles H. →Greenwood & Co. in the Eagle Iron Works, Cincinnati, Ohio, but were destroyed by fire before they could be completed—allegedly due to Confederate sabotage. Backed by McWhinney & Rindge, thirteen more Gatlings were then made by the Cincinnati Type Foundry Company; one was sold to the U.S. Navy, and the remaining twelve were purchased for the Massachusetts Volunteers.

¶ The Civil War ended before much more could be done, though encouraging trials allowed development of a 1-inch calibre Gatling to begin. The last .58- and the earliest 1-inch Gatlings were made in Philadelphia by the →Cooper Fire Arms Manufacturing Company, but, in August 1866, the U.S. Army placed a hundred gun contract with the Gatling Gun Company. The order was immediately sub-contracted to →Colt's Patent Fire Arms Mfg Company.

¶ The .50–70–405 Colt-made *M1865* guns incorporated U.S. Patent 47631 of May 1865, protecting a camming sleeve inside the breech casing to retract the breech-bolts as they revolved with the barrels. All but five of them were subsequently converted to .45–70. The improved *M1871* Gatling embodied an automatic oscillator and new breech-bolts, patented in March 1871, which could be removed through the cascabel plate for inspection or repair. The hopper would accept a curved box magazine or the 'Broadwell Drum' (patented by L.M. →Broadwell in April 1872), which consisted of a cluster of twenty vertical twenty-round magazines in a single unit.

¶ Only ten of these guns were acquired by the U.S. Army. Others were made for export, including .42-calibre examples despatched to Russia (where they were known as the 'Gorlov'). A production licence was granted as early as 1869 to Sir W.G. →Armstrong & Co. Ltd, and encouraging trials had been undertaken in Britain against field guns and the Montigny →Mitrailleuse. In October 1870, the British approved the Gatling for field- and ship-board use, though the first order for .45- and .65-calibre Armstrong-made guns was not fulfilled until the beginning of 1874. All but twelve of them were given to the Royal Navy. The *Gun, Gatling, .45 (Mark I)* was the first successful weapon of its type in British service. It was issued with the 'Trail Mk I' and the 'Limber Mk I', which together weighed about 1450lb.

¶ The .50–70 *M1873* and .45–70 *M1874* Gatling Guns were similar to their predecessors, but embodied bronze components; had breech-bolts protected by U.S. Patent 125563 of 9th April 1872; and featured an improved oscillator (Patent 145563). An improved feed hopper lay to the left of the gun's centre line. 'Musket length' gun generally had ten 32-inch barrels, mounted on a wheeled carriage; the so-called 'Camel Gun', mounted on a forty-pound tripod, had 18-inch barrels.

¶ The *M1875* Gatling had a fixed front sight, an improved hopper feed with raised sidewalls, and bevels on the leading edge of the bolt faces to improve the feed. The U.S. Army bought an assortment of these guns, including four 'Camel' examples, and the U.S. Navy purchased a variant with medium length barrels encased in a bronze jacket. The *M1876* had the magazine-feed hopper on the centre line, cartridge guides being added to the ends of the feed throat to facilitate the entry of cartridges. A new head-space adjusting lock was fitted, together with several internal improvements.

¶ The *1877-pattern* U.S. Army guns, the last of the Gatlings to incorporate an automatic oscillator, had feed hoppers with a small fluted drum at the base, improving feed to match the increased rate of fire. There was also a 'Bulldog Gatling', introduced in 1877, with short bronze-encased barrels and a crank handle attached directly to the rear of the central axis-rod protruding through the cascabel plate to increase the fire-rate to 1000 rds/min. The *M1879* had a special quick-adjustable yoke elevator locked by a friction brake, ten 32-inch barrels. The U.S. Army bought more than thirty, whilst the Navy took about twenty with bronze barrel casings.

¶ The *M1881* was equipped with 'Bruce Feed', patented by Gatling Company employee Lucien F. →Bruce in September 1881 (U.S. no. 247158). This relied on a bronze frame with two 'T'-slotted tracks accepting the cartridge rims. The feed system was also fitted to a few Gardner and Lowell guns. The U.S. Army purchased 27 ten-barrel *M1881* guns, the first twelve accepting the Broadwell Drum or the original box magazines, whereas later deliveries were restricted to the Bruce Feed. Standard ten-barrel U.S. Army guns weighed 260lb, plus 594lb for the wheeled carriage; U.S. Navy guns usually had conical pedestal mounts.

¶ Even the Bruce Feed failed to allow the Gatling Gun to work effectively if the angles of depression or elevation were excessive, and so the →Accles Positive Feed, patented in 1882, was substituted. The *M1883 Bulldog* offered two crank positions, giving fire rates of 800 or 1500 rds/min. Bolts were altered and extractors were strengthened, but the mechanism had an enduring reputation for case-head separations.

¶ The *Model 1885*, *Model 1886* and *Model 1887* were difficult to distinguish externally, the U.S. armed forces acquiring more than a hundred of them in 1883–7. The .45–70 ten-barrel *M1889* reverted to exposed barrels, which the U.S. Army preferred, and the ‘Murphy Stop’—a cocking switch—was added on the breech casing. Dual-feed adaptors accepted either the Bruce Feed or the old tin box magazines, and a yoke-and-socket mount replaced the previous turntable.

¶ An electrically-powered Gatling Gun was tested by the U.S. Navy in 1890, driven by an external Crocker-Wheeler motor. Even though the mechanism incorporated reduction gearing, a fire rate of 1500 rounds per minute was easily attained. Gatling then patented a gun with an integral motor in the receiver behind the breech-blocks (U.S. no. 502185 of 25 July 1893), achieving a staggering 3000 rds/min.

¶ The *M1891* and *M1892* Gatlings resembled the 1889 pattern externally; more than fifty were purchased by the U.S. Army. The *M1893* was also similar, but chambered the .30 government (Krag-Jørgensen) cartridge and incorporated the ‘Gatling Positive Feed’ system patented by Clement Broderick and John Vankeirsbilck in September 1893 (U.S. no. 504516). The U.S. Army ordered eighteen guns, but the thin metal cartridge strips of the Broderick-Vankeirsbilck feed were too fragile and the guns were converted to →Bruce Feed in 1897–8 at the Gatling Company’s expense.

¶ Later U.S. Army Gatlings included the *M1895*, with revised breech-bolts, rebounding hammers, Bruce Feed, bronze parts painted olive drab and the remaining metalwork blackened: more than ninety guns were acquired in May–November 1898. The *M1900* was little more than an *M1895* with its hopper machined from solid bronze stock instead of being fabricated, though, for the first time, the bolts were interchangeable. Only about twenty were made for the army, plus a similar number of Navy *M1900 Mk 2* guns with bronze-encased barrel clusters. An improved Bruce Feed was standard.

¶ Many of the U.S. Gatlings were still in service in 1917, though most of them had been relegated to static use or given to the militia. The advent of the →Maxim Gun and its competitors had brought the era of the mechanically-operated machine-gun to an end. Yet the Gatling had sold well abroad—notably in France, Prussia and Japan—and had been particularly well received in Britain.

¶ The best source of information is *The Gatling Gun*, by Paul Wahl and Donald Toppel (Arco Publishing, New York, 1976). See also ‘James G. →Accles’, ‘Lucien F. →Bruce’ and ‘Lucius W. →Broadwell’.

- Gaucher** Saint-Étienne, France. Listed in 1933 as a gunmaker, and in 1951 at rue du Docteur Cordier. 2. Gaucher Bergeron frères; Saint Étienne, France. Listed in 1879 as a gunmaker, with premises at rue des Creuses 12, rue Saint Denis 41, and rue de la Badouillère 9. Still listed in 1892 at rue des Creuses 12 and rue Michelet 41.
- Gaulois** A brand name associated with a repeating pistol made by →Manufacture Française d'Armes et Cycles of Saint Étienne.
- Gauthey**; 20 rue Ferdinand, Saint Étienne, France. Listed in 1951 as a gunmaker.
- GAW** Found on U.S. military firearms and accessories. See 'George A. →White', 'George A. →Woody'.
- Gaztañaga** Isidro Gaztañaga, Eibar, Guipuzcoa, Spain. A maker of →Ruby-pattern semi-automatic pistols for the French army during the First World War, and also of the post-war →Destroyer series.
- GB** *usually accompanied by inspectors' marks in the form of capital letters surmounted by crowns or stars*: a Belgian government property mark, 'Gouvernement Belge'.
- GB** *superimposed-type monogram, with neither letter prominent*. Found on pistols, revolvers and sporting guns made in Spain by Gregorio →Bolumburu of Eibar.
- gba** Used on German rifle- and other small-arms components made in 1941–5 by Adolf von →Braucke of Ihmerterbach bei Westig in Westfalen.
- GBA** Found on U.S. military firearms and accessories. See 'G.B. →Allen'.
- GBC and GBF and GC** Found on U.S. military firearms and accessories. See 'George B. →Cruzen', 'George B. →Foote' and 'George →Curtis'.
- GCA** *concentric-type monogram, with the 'G' and 'A' prominent*. Correctly 'GAC' (q.v.); used by →Garate, Anitua y Cia.
- GCD or G.C.D.** *often in the form of a monogram with 'D' dominant*. A trademark associated with the German gunsmithing business of G.C. →Dornheim of Suhl.
- GCS** Found on U.S. military firearms and accessories. See 'G.C. →Snell'.
- G.C. & S.:** see 'G. →Coster & Son'.
- gcy** Associated with machine-guns and small-arms components made from July (?) 1941 onward by L.O. →Dietrich Vesta Nähmaschinenwerke of Altenburg in Thüringen. Production lasted until the end of the Second World War.
- GD, GDF, GDG, GDL, GDR and GDS** All found on U.S. military firearms or accessories. See 'G. Dillingham' or 'G. →During'; 'G.D. →Fisk'; 'Gilbert D. →Greason'; 'George D. →Little'; 'G.D. Ramsey, Jr'; and 'George D. →Shattuck' respectively.
- GEC** Found on U.S. military firearms and accessories. See 'George E. →Chamberlain'.
- Gecado or GECADO** *on a lozenge, customarily with 'G' enveloping the remainder*. A trademark ('GCD', phonetically in German) used in the late 1930s by G.C. →Dornheim AG of Suhl. It will be found on a variety of guns, ammunition and accessories, including 6.35mm →Browning-type pocket pistols made in Spain.

- Gecado** or **GECADO** *on a lozenge, customarily with 'G' enveloping the remainder.* A trademark used since 1959 by →Dynamit Nobel on guns, ammunition and accessories, including airguns made by →Dianawerk, pistols made by →Reck, and →Mauser-action rifles supplied by a variety of contractors.
- Gecado** Used in Germany since 1960 to distinguish →Mayer & Grammelspacher Diana airguns made for Albrecht →Kind.
- Geco** or **GECO** *sometimes in the form of a monogram 'G'+'eco'.* An acronym, brand name and trademark associated with sporting firearms, airguns and accessories handled prior to 1959 by Gustav →Genschow, Germany. It has been used since 1959 by →Dynamit Nobel.
- Geco** or **GECO** Found on spring-and-piston air guns made in the late 1950s for Gustav →Genschow—then part of →Dynamit Nobel Troisdorf—by →Mayer & Grammelspacher.
- Gedney** George W.B. Gedney of New York City designed a primitive low-powered air pistol protected by U.S. Patent 33344 of 24th September 1861. In the words of a contemporary encyclopedia, the 'hollow handle is formed of india rubber or other flexible air tight material, and communicates with a short tube placed beneath the barrel and connected therewith by means of a passage. A valve of cork closes the passage...and is pressed into its seat by a rod. To discharge the pistol, the rubber handle is compressed until the pressure of the air overcomes the adhesion of the valve to its seat, when it is driven back; the air then escapes into the tube and thence into the barrel, driving out the projectile'.
- Gehmann** Walter Gehmann; Karlsruhe. This German gunsmith has made Mauser type 'Original →Vom Hofe' rifles on the basis of →Husqvarna actions. The guns usually had double triggers, twin recoil bolts, and sharply curved pistols grips, chamberings being restricted in 1965 to the 5.6×61 Vom Hofe, 7×66 Vom Hofe and 6.5×68 RWS cartridges.
- Geiger** Leonard Geiger of Hudson, New York State, is best known for the →Split-breech Remington carbine of the U.S. Civil War era. Geiger submitted three differing rifles to the U.S. Army trials of 1865–6. Protected by U.S. Patent 37501 of 27th January 1863 (reissued as no. 2231 on 17th April 1866) and tested as Guns No. 8–10, they all relied on variations of the 'Split Breech' system. They had rounded receivers and separate fore-ends held by three sprung bands. In addition, E. →Remington & Sons submitted three similar carbines as Guns No. 46–8, even though experience had already shown the Geiger action to be weak. The →Rider-patent Remington Carbine No. 57 was clearly preferable.
- Geipel.** Berthold Geipel: Germany. See 'Erma Werke'.
- Gelly;** rue Villeboeuf, Saint Étienne, France. Listed in 1892 as a gunmaker.
- Gem** Though often synonymous with an entire class of butt-cylinder airguns, this mark has also been found accompanying the 'E.G. and crossed pistols' of →Eisenwerke Gaggenau or the 'L. and rifles' of →Langenhan. It is believed to have been introduced prior to 1914 by a British importer, possibly →Lane Brothers.

**Gem** An airgun slug made by →Lane Brothers as “Lanes’ Perfect No. 1 Gem”.

**Gem** Usually encountered as ‘The Gem’: on 12-bore and other shotgun cartridges marked by Henry →Atkin of London.

**Gem A** →Suicide Special revolver made in the late nineteenth century by the →Bacon Manufacturing Company of Norwich, Connecticut, U.S.A.

**GEM** Found on U.S. military firearms and accessories. See ‘George A. →Miller’.

**Gem airguns** Customarily used for any representative of the butt cylinder pattern protected by U.S. Patent 204,167 granted to Asa →Pettengill in 1878. This gun was licensed to Henry →Quackenbush c. 1884 and improved by George →Gunn, whose U.S. Patent 337,395 (1886) allowed a claim for a gravity feed ball magazine. Production began in Europe in the late 1880s, when it is assumed that Quackenbush licensed production to →Eisenwerke Gaggenau. ¶ The first Quackenbush guns were known as ‘No. 5 Combination’, relying in two additional patents granted in 1887 C including Quackenbush’s own 370,817 of 4th November 1887. However, the patent applications had been made some time earlier; production of the No. 5 was certainly underway by 1884, as 38 of them had been made by the end of the year. Production, never large, ceased on 3rd May 1911, though new guns were still being despatched from the Herkimer warehouse in 1913.

¶ The Quackenbush No. 5 had a replaceable striker unit, carried in a patch box in the butt, so that it could be used as an airgun or firearm. The piston head struck the striker, which in turn ignited the cartridge primer. Modified combination guns were made in Germany, Belgium and Britain prior to 1914, and can usually be identified by the presence of appropriate →proof marks.

¶ Gem-type airguns were made by many manufacturers from 1885 until 1925, but are notoriously difficult to classify. Calibre may be .177, .21, .22 or .25. Among the known participants were →Eisenwerke Gaggenau, Fr. →Langenhan and →Mayer & Grammelspacher in Germany; an unidentified Belgian gunmaker using an encircled ‘M’ mark (which could be read as an ‘OM’ or ‘MO’ monogram); and a variety of British retailers such as →Arbenz of Birmingham or →Sugg of Sheffield, their identities sometimes camouflaged by brandnames such as →Laballe. Combination guns have also been seen with the marks of →Coirier of Paris and →Ancion Marx of Liège, but are much scarcer than airguns.

¶ Many relevant patents were granted to improve the Gem, most notably to Theodor →Bergmann, Fr. →Langenhan, →Lane Bros., and William →Baker & Arthur Marsh. Some of these dated as late as the 1920s, when the design was obsolete, and the →Britannia (patented by Frederick →Cox in 1902–4) remained the high point of Gem type design.

**Gem or Gem Rifle** An alternative name for the No. 2 Sporting Rifle, made by E. →Remington & Sons and the →Remington Arms Company prior to 1910.

**Gemmer** John P. Gemmer; St Louis, Missouri. Born in Germany in 1838, Gemmer emigrated to the U.S.A. in 1855. There he joined the gunsmithing business of Samuel →Hawken, whom Gemmer succeeded in 1861. Sporting

guns, including spring-and-piston →Gallery Guns dating from 1865–75, were made until Gemmer retired at the end of the nineteenth century. He died in 1919.

**General** [“The...’]. Found on shotgun cartridges loaded in the Birmingham shops of William →Powell & Son from →Eley-Kynoch components. See also ‘Admiral’.

**General** A Suicide Special revolver made by J. →Rupertus Patent Pistol Manufacturing Company of Philadelphia, Pennsylvania, U.S.A., in the late nineteenth century.

**General Custer** A BB Gun made by the →Dubuar Company and presumably, therefore, a variation of the →Globe. Arni Dunathan dates it to 1898 or 1902 in *The American BB Gun*, but the former seems more likely unless the ‘General Custer’ was a way of ridding Dubuar of unwanted guns after the collapse of the →Globe Mfg Co. The gun was named after General George Armstrong Custer, killed at the Battle of the Little Big Horn in 1876. It may be no coincidence that the 25th anniversary of his death fell in 1901.

**General Motors** was concerned with one of the silliest ordnance episodes of the Second World War. It concerned the T24 project, an adaptation of the German MG. 42 captured in North Africa for the .30 M1906 cartridge, incorporating a rate reducer to restrict the excessive cyclic rate of the German prototype. The ordnance authorities gave the project to the Saginaw Steering Gear Division of General Motors, who produced two T24 machine guns for trial in October 1943. Initial trials were unsatisfactory, with a high proportion of jams that had not characterised the MG. 42, but the guns duly arrived for a 10,000 round endurance trial at Springfield Armory in February 1944. After fifty jams in 1483 rounds, the test was suspended and an investigation begun to discover the cause. This proved to be simply that the T24 designers had failed to allow for the additional length of the .30 M1906 cartridge compared with the German 7.9mm pattern, with the result that the bolt failed to recoil far enough to clear the ejection opening. The project was abandoned rather than spend money correcting the flaws. Springfield Armory reported that the T24 had some excellent features, particularly the barrel-change system and the trigger mechanism, and that the rate reducer seemed efficient; on the debit side, the gun proved susceptible to clogging, had inadequate reserves of power in adverse conditions and was uncomfortable to fire. See also ‘Hydra Matic’.

**General Officer’s Model** Introduced in the 1970s, this was a shortened version of the .45 M1911A1 →Government Model Colt→Browning semi-automatic pistol developed by Rock Island Arsenal. The magazine held six rounds instead of the customary seven. See also “Officer’s ACP Model”.

**General-purpose machine gun**, or ‘GPMG’. Another name for any →universal machine-gun suited to differing roles simply by changing the mount, without altering the fabric of the gun.

**General Service** Associated with shotgun ammunition made by the →Mullerite Cartridge Works, Birmingham.

**Generally Useful** ['The...']. A brand name found on shotgun cartridges sold in Britain by Charles →Lancaster & Co. Ltd of London.

**Genhardt** The gunmaker Heinrich Genhardt, operating in Liège, was granted a Belgian patent for his →turret pistol on 31st August 1853; U.S. Patent no. 16477 of 27th January 1857 is comparable, and similar protection was sought in Britain and France. The guns relied on a sliding 'gas-seal' barrel and a magazine disc mounted horizontally. They were made in small numbers in Liège and elsewhere in 1855–60, but the advent of the revolver swept them away. Some guns were chambered for tube-primer cartridges; others handled conventional pinfire ammunition.

**Genschow** Gustav Genschow & Co. AG (often known simply as 'Geco'); Berlin SW68, Charlottenstrasse 6 in 1925. One of Germany's best known manufacturers and distributors of 'weapons, ammunition and guns for sport, target shooting and practice', Genschow owned factories in Durlach, Wolfartsweier in Baden and Hachenburg in Westerwald in 1925. Branches were maintained at this time in Hamburg, Hamm, Köln, Königsberg in Preussen, Suhl and Wien. Many of the goods were marked with the trademark 'Geco'. Genschow sold many Mauser type sporters in 1920–39, most of them being made elsewhere even though substantial gunsmithing facilities were maintained in many of the Genschow branch offices. Mausers of this type often bore nothing but the well known →Geco trademark.

**George** The marks of this London gunmaker have been reported on self-cocking →pepperboxes dating from the middle of the nineteenth century. No links with 'George of Dover', below, have been proved.

**George** W.J. George; Dover, Kent. The name of this long established gunmaker—known to have been trading as early as 1890—has been reported on shotgun cartridges made by →Kynoch. Sporting guns and airguns have also been found with George's name.

**Gerät** A German-language term: 'equipment'. It was sometimes used prior to 1945 as a distinguishing prefix for small-arms but generally indicative of a design that had not reached service—e.g., *Gerät 06 (H)* and *Gerät 040* were Mauser-developed assault-rifle and simplified pistol (→Volkspistole) respectively.

**Gerest**; place Villeboeuf 8, Saint Étienne, France. Listed in 1879 and 1892 as a gunmaker.

**Geriffelt** A German-language term applied generically either to rifled barrels or, alternatively, to indicate airgun pellets with ribbed bodies.

**Gering** Hans Gering; Arnstadt in Thüringen (sic), Germany. A maker, or perhaps simply a distributor of 7.65mm →Beholla-type pistols under the trade name 'Leonhardt'. Operations seem to have failed by 1929, but nothing else is known. A link may exist with H.M. Gering & Co., a manufacturer of tongs and tools (*Zangen- u. Werkzeugfabrik*) trading in Heidersbach bei Suhl in 1940.

**German army unit marks, pre-1918** These, when present, provide a very good means of linking guns and accessories with individual units, though the

practice was made optional during the First World War. Unfortunately, the unreliability of many books has done more harm than good to the transcription of German marks, though a most honourable exception was the painstakingly compiled *German Small arms Markings from Official Documents* (1997) by Joachim Görtz and Don Bryans, which was based entirely on German official records. The bayonet books written and published in Britain by Anthony Carter, which deal with markings individually, also give an exceptionally useful background history of pre-1918 German army structure.

¶ Markings will be found in a variety of places, and the issue and re-issue of guns sometimes meant that barrel-bands, butt-plates and bayonet scabbards (for example) bore marks impressed by several different units. This is particularly true of the old weapons that had filtered down from the regular army, through the *Landwehr* to the *Landsturm*, and then been recalled to active service when shortages of equipment became apparent from 1915 onward.

¶ The markings were stamped with 2.1mm and 3.1mm Arabic numerals, 4.2mm Roman numerals, and 2.5mm and 4.2mm letter/number punches, all of which were supplied from →Danzig arsenal. According to the regulations, they were to appear on the butt marking disc of the Gew. 98 prior to November 1915, and thereafter on the top surface of the butt plate.

→Parabellum or 'Luger' pistols usually have the marks on the front grip strap.

¶ Unit marks can often be difficult to decipher, particularly as the regimental armourers often failed to follow the regulations accurately. This became most obvious during the early stages of the First World War, when training fell below normal peacetime standards. Infantry-regiment marks struck in this era by inexperienced or semi-literate personnel, for example, could read 'I.R.', 'J.R.' or 'Inf.R.' instead of the simple regulation 'R'.

¶ Unit markings were applied from the earliest days of the *Deutsches Reich*, the 'German empire', but initially not to any closely-prescribed form. Yet virtually all Prussian guns, bayonets and service-pattern swords and sabres usually bear a crowned letter for the king, a two-digit date '67' for 1867, and the initial of the inspector or 'Revisor' responsible for accepting the item as fit for service. Individually engraved unit marks will often take essentially the same form as those that replaced them after 1871.

¶ The principal document governing the marks was *Vorschrift über das Stempeln der Handwaffen* (D.V.E. 185 of 1909 in Prussia, D.V. 448 of 1910 in Bavaria), though many amendments—known as *Deckblätter*—had been issued by the time the First World War began in the summer of 1914. Most commonly encountered are the marks of the line infantry regiments ('R'). Next come the Bavarian line infantry regiments ('B...R.'), 23 of which existed in 1908 when the Prussians and their allies had 182. The many reserve infantry regiments used a cursive 'R', while stampings applied by the regimental machine gun companies included '...R.M.G...'

¶ There were fourteen Prussian rifle battalions or *Jäger* ('J'), and two Bavarian

equivalents ('B...J'). Appreciably less common are marks of the five regiments of foot guards ('G.R.') and the five guard-grenadier units ('G.G.R.'), while stampings applied by the solitary *Garde-Füsilier-Regiment* ('G.F.R.'), the *Lehr-Infanterie-Bataillon* ('L.I.B.'), the Bavarian *Leib-Regiment* ('B.L.R.'), the *Garde-Jäger-Bataillon* ('G.J.') or the *Garde-Schützen-Bataillon* ('G.S.') are all very scarce.

¶ Marks applied by cavalrymen will also be found, though they are scarcer—and more desirable—than those of line infantry equivalents. The establishment in 1908 included 24 line dragoon ('D.') regiments, seventeen line hussar ('H.') units, eight regiments of heavy cavalry (*Kürassiere*, 'K'), and sixteen regiments of lancers ('U', *Uhlanen*). Even less common were the marks of two guard dragoon regiments ('G.D.'), the guard hussars ('G.H.'), and three guard lancer regiments ('G.U.'). Marks indicating service in the Prussian royal bodyguard (*Regiment der Gardes du Corps*, 'G.d.C.') are particularly scarce. Other rarely encountered marks indicate those of mounted riflemen (*Jäger zu Pferde*, 'J.P.'), Bavarian light horse (*Cheveaulegers*, 'B...Ch...'), Bavarian heavy cavalry ('B...s.R...'), or airmen ('F.A...', 'F.E.A...').

¶ It has often been claimed that the markings were abandoned in 1916, but this is only partly true. Not every gun and accessory had been marked in peacetime, and, as early as February 1912, the need to mark all the guns involved in mobilisation was dropped in favour of simply recording an issue number, the serial number and the identity of the bearer on inventory sheets. These were to be kept in the same place that the weapons were being held; when the guns were issued, therefore, the paperwork accompanied them. However, updated markings regulations were issued in Prussia (D.V.E. 298a of 1913) and Bavaria (D.V. 378a of 1914) and continued in force until an order was issued on 2nd November 1916.

¶ This is usually said to have brought marking of guns and accessories to an end; but the wording of the order shows clearly that the decision was not mandatory (the phrasing is 'need not' not 'must not') and marks were still being applied from November 1916 until the end of the war. Guns dated 1917 and 1918 may be found, and it is probable that some unit commanders (and perhaps some armourers on their own initiative) allowed work to continue as a way of alleviating the stress and boredom of day-to-day life in the trenches. A similar restriction was applied to clothing and equipment, at the end of december 1916, but was rescinded in June 1919 when the necessity to identify military equipment was deemed essential to prevent theft to arm the *Freikorps*.

**German army unit marks, post-1920** On 1st August 1920, the military authorities ordered that all weapons of the Reichswehr, the armed forces, should be marked pending 'the general disarming of the people [a result of the Treaty of Versailles]'. On 28th September 1920, the instruction was revised to exclude guns owned or carried by army officers, civil servants and other non-military members of the armed forces. Finally, on 9th April 1921, provisional marking

instructions were issued: until a comprehensive system was approved, the marks were to be confined to *Kompagnie* and *Waffennummer* without branch-of-service identifiers (creating simply '8.15.'). Detailed regulations were announced on 1st November 1922 in the *Heeres Verordnungsblatt*, §664. These were finalised by *Vorschrift über die Stempelung und die Bezeichnung von Waffen und Gerät bei der Truppe* (H.Dv. 464): the introductory remarks or *Vorbemerkungen* were published in 1923, and *Teil I: Infanteriewaffen und Infanteriewaffengerät*, followed in 1924.

¶ Individual markings used after 1923 were typically '2./J.R.15.5.', which would have signified the fifth weapon issued to the second company of the fifteenth infantry regiment. The letter combinations 'A.R.', 'N.A.', 'Pi.' and 'R.R.' signified artillery regiments, communications units, pioneer battalions, and cavalry (*Reiter*) regiments respectively; 'Kdtr.' was *Kommandantur*, a district command, and 'Ü.Pl.' signified the administrative staff of a training ground or *Truppen-Übungsplatz*.

¶ The 1923 regulations remained in force until, according to the 10th January 1934 edition of the *Heeres-Verordnungsblatt*, §33, small-arms and edged weapons were no longer to be marked with unit descriptors (though existing markings could remain). Finally, from October 1937, all property marks were abandoned if they were applied by stamping, engraving or etching, all of which, it was considered, could compromise their durability. In 1940, responsibility for personal weapons was finally transferred from the military authorities to the individual soldier, details of an item, its serial number and manufacturer's mark (if any) being entered in his paybook.

**German colonial-service markings** Pre-1918 equipment was usually marked simply 'K.S.' (*Kaiserliche Schutztruppe*) until about 1911–12, after which each individual force applied its own marks—e.g., 'Sch.D.O.A.' applied by the *Schutztruppe Deutsch Ostafrika*, the protective forces in German East Africa; or (possibly) 'Sch.Tr.D.S.W.A.' for the *Schutztrupp Deutsch Südwestafrika*. The *Landespolizei* in *Deutsche Südwestafrika* used 'L.P.', and the *Reichsgouvernement* in the Far-Eastern protectorate of *Kiautschau*, based in *Tsingtau*, used 'GOUV. KIAU.' on Gew. 98 and Pistolen 1908.

**German miscellaneous firearms markings** Documents such as the *Vorschrift für die Stempelung der Pistole 08 nebst einer Zeichnung* ('regulation [telling] how to mark the Pistol 08, accompanied by a drawing') not only tell us how proof procedures were undertaken in respect of the ➤Parabellum or Luger pistol, but also identify the purpose of individual inspectors' marks. This has dispelled many once-common myths, and can be used to date guns which now lack their principal markings.

¶ A date stamp, *Jahreszahl*, usually appears above the chamber of Mauser rifles and Parabellum pistols alike. The *Vorschriften* also shows how to distinguish guns which had been refurbished or assembled from old parts. Refurbished guns had additional two digit dates such as '1909/13' over the chamber, showing the year of reconstruction; those assembled from parts

had reversed dates in the form '1913/09' to signify a gun which had been assembled in 1913 from unmarked parts which were four years old.

¶ Letters identifying the state monarch or the emperor (see 'Cyphers, imperial and royal') may also lie on the left side of the barrel at the breech. Crowned military inspectors' stamps—*Abnahmestempel mit Krone*—were tiny letter punches, made in four sizes: 7mm, 4.2mm, 3.2mm and 2mm measured from the base of the letter to the apex of the crown, designated 'grosser', 'mittlerer', 'kleiner' and 'kleinster' Abnahmestempel respectively. Strings of these may be encountered on rifles, particularly alongside the breech. Some marks will be found in *Fraktur* (gothic script), but others were cursive. All the letters of the alphabet were used, apparently excluding 'J' (and possibly also 'A' which was sometimes used as a reject mark), but the unusually high incidence of 'X' suggests that it may have been used as a substitute letter, perhaps identifying the junior of two or more inspectors whose surnames shared the same initial. A few marks have been encountered with a bar beneath the letter, which could also indicate the junior of two inspectors with identical surnames. Though few individual inspectors have yet been identified, details of postings to the rifle factories can be gleaned from the *Militär Wochenblatt* or the painstaking research undertaken by Horst Laumann and published in the *Deutsches Waffen Journal*.

¶ The manufacturers' and general markings (*Fabrik- und allgemeine Stempel*), including the DWM monogram and the marks of the principal government factories—AMBERG (Bavaria), DANZIG, ERFURT or SPANDAU beneath a crown—were not precisely defined in the regulations and can take a variety of forms depending on their size and the position on the gun. The DWM monogram found on Maxim machine-guns, for example, differs greatly from the designs associated with Mauser rifles or Parabellum pistols.

¶ The proof eagle (*Beschussadler*, 'Heraldischer Adler') was customarily 3.2mm high and 2.9mm wide. Cartridges used for proof-firing, known as *Beschuss Patronen* or 'B Patr.', usually developed 75 per cent more pressure than normal. A calibre mark is usually to be found somewhere on the barrel near its joint with the receiver.

¶ The appearance of the 4.2mm and 2mm crown/'RC' marks of the *Revisions-Commission* in the pre-1914 regulations prove that these originated long before Allied control commissions appeared in Germany after the Armistice. They will be found on otherwise serviceable pre-1918 government-made guns which had failed inspection solely because of poor tolerances or external flaws. Rejected by the inspectors, these weapons were submitted to the Revisions Commission for reappraisal. Those that were accepted for service were given marks to absolve individual inspectors of blame for subsequent failures. The privately owned manufacturers, Mauser for example, were contractually obliged to replace any guns that failed proof or inspection at their own expense. Consequently, these will not be found with 'RC' marks.

¶ Serial numbers, *Gewehr- oder Pistolenummerstempel*, could be either 1.5mm

or 2.1mm high. They usually appear in full on the left side of the barrel and receiver and on the base of the bolt handle of the rifles, though the positions vary according to the type of gun. The guns seem to have been numbered on the basis of calendar years, though the governmental fiscal year ran from 1st April to 31st March. Letter suffixes were used after the introduction of the Gew. 88 to distinguish blocks of 10,000 guns. When the first block had been completed, numbers began again at 1a; when this was full, work recommenced at 1b. In the case of the Gew. 98 made during the First World War, the system reached 10000z (excluding the 'j'-block) and began again at 1aa. Parts of the serial number may be repeated on most of the components, including the bolt guide rib, the bolt head, the striker, the safety wing, the cocking piece, the striker head and the extractor. This is particularly true of pre-1888 rifles.

**German navy unit marks** Very little paperwork survives to identify and reliably date the introduction of marks used by the navy. The most common *Marine* identifier is a distinctive squared imperial crown above 'M'—the mark of the principal navy inspector responsible for the particular weapons. The most common unit markings (usually on the butt plate of the rifles or the backstrap of pistol grips) include 'M.A.A.' for *Matrosen-Artillerie-Abteilung*, often prefaced by a prefatory roman numeral; 'M.D.' for *Matrosen-Division* (sailors division); 'S.B.' for *Seebataillon* (marines); 'St.S.B.' for the *Stamm-Seebataillon*; and 'T.D.' for a post-1908 *Torpedo-Division*. The 'U.A.' marks of the *Unterseeboot-Abteilung* are very rare, whereas the 'W.D.' of *Werft-Division* (comprising artificers, stokers, engine room staff, etc), customarily prefaced by a roman numeral, is much more common. 'W.K.' indicates guns on the inventory of 'Werft Kiel' (Kiel dockyard arsenal) and 'W.W.' signifies 'Werft Wilhelmshaven'.

¶ The most common post-1923 marks were property numbers incorporating the prefixes 'N.' or 'O.', for the *Marinestation der Nordsee* (North Sea) and the *Marinestation der Ostsee* (Baltic) districts. These seem to have been abandoned at about the time the Second World War began in Europe in September 1939.

**German police marks** Pre-1918 identifiers included the 'R.G.' applied by the *Reichsgendarmerie* operating in the province of Alsace-Lorraine, and 'K.Sächs. Gend.' or 'K.S.Gend.' for the Royal Saxon police. After the end of the First World War, however, important changes were made. Preliminary instructions were issued in March 1920, but were rescinded on 12th April 1922 when the guns, edged weapons and associated equipment of the *Schutzpolizei* were to be marked to prevent theft. Items distributed by provincial presidents, used by uniformed community officers and held in police armouries were exempted from the regulations.

¶ Work proceeded slowly, but was supposedly completed by 1st December 1922. A typical Gew. 98 could be marked 'A.Al.II.1.2': the second gun issued to the 1st precinct (*Hundertschaft*, 'centuria') of II. command (Osterode) of the Allenstein District of the *Schutztruppe*. The marks of the Berlin municipal police took similar form, but the sub-divisions differed: 'S.B.S.I.1.17' would

be the seventeenth gun issued to the first precinct of I. section (Linden) of Gruppe 'Sud' of the Berlin Schutzpolizei. 'S.D.' and 'S.S.' were the marks of the Schutzpolizei in Düsseldorf and Schneidemühl.

¶ The Landespolizei, the rural gendarmerie, took the opportunity to revise markings procedures in October 1930, largely because of the wholesale replacement of the old Kar. 98a with new (or at least, refurbished) Kar. 98b. The marks were simple: 'M.6.5.' was the fifth gun of the sixth precinct 90fb Kommando München

¶ In 1932, regulations issued to the state police in Prussia introduced prefixes 'K' to distinguish *Kriminalpolizei*, 'S' for *Schutzpolizei* and 'L' for *Landjägeri*: 'S.Br.I.15.' was the fifteenth gun issued to the first ('II') district of the Breslau Schutzpolizei; 'K.B.125.' was the 125th gun issued to the Kriminalpolizei in Berlin. Other marks included 'HP.' for the *Höhere Polizeischule* ('central police school') in Berlin; 'PTV' for the *Polizeischule für Technik und Verkehr* (the 'police institute for technology and transport') in Berlin; and 'RhP.' for the Rhine river police or *Rheinpolizei*.

**Germania** Protection for this brandname, accompanied by a suitable trademark, was granted to J.G. →Anschütz in September 1907 (no. 50666) and used into the 1930s even though largely superseded by →JGA.

**Germania Waffenfabrik**: see 'J.G. Anschütz'.

**Gerner** Charles Gerner was the co designer, with Eli →Whitney the Younger and Frank →Tiesing, of the breech-loading shotgun protected by U.S. Patent 93149 of 27th July 1869.

**Gerngross** Paul Gerngross; Suhl in Thüringen. A German gun-stocker, active in 1939.

**Gerstenberger & Eberwein**, Em-Ge Sportgerätewerk; Gussenstadt. A successor to →Moritz & Gerstenberger, which had ceased trading in Germany at the end of the Second World War. One of the original partners re-established operations in the early 1950s in West Germany, allowing the first of a range of airguns and blank firers to be made. Products have since included cartridge revolvers, flare pistols, starting pistols, and a range of barrel cocking spring air pistols.

**Gerster**; rue Michelet 61, Saint Étienne, France. Listed in 1892 as a gunmaker. Still trading in 1933 and also in 1951.

**'GES'**. Found on U.S. military firearms and accessories. See 'George E. →Saunders'.

**'Ges. Gesch.'**, **'Ges. Geschützt'**. These German-language abbreviations C 'Protected design' C will be found on a variety of equipment, signifying a level of protection below a patent or utility design (→DRP, →DRGM), but better than simply a registered trademark (→DRWZ).

**Geværfabrik Kjobenhaven**: see 'Copenhagen'.

**Gevelot SA**; France. See 'Société Française des Munitions'.

**Gevelot & Cie** or 'Maisons Gevelot', later 'Gevelot & Gaupillat'. This cartridge making company, initially a maker of percussion caps, was formed in Paris

in 1820 by Marin Batard Gevelot. A factory was established in Issy les Moulineaux in 1826, but Gevelot died in 1846 and his successors formed an alliance in 1858 with →Gaupillat, Illig, Gundorff & Masse. This arrangement led to the foundation in 1883 of Gevelot & Gaupillat, but the name was almost immediately changed to →Société Française de Munitions. Cartridges made prior to 1883 can often be identified by a monogram consisting of two letters 'G' back to back, though this was perpetuated by SFM and care must be taken with dating.

**Gew.** *often in fraktur.* Found on the receivers of German military firearms, this simply signifies *Gewehr*, 'rifle'.

**GEW** Found on U.S. military firearms and accessories. See 'G.E. →Worden'.

**G.F. or G F** These marks will be found in the headstamps of cartridges made in Italy by Guilio →Fiocchi & C. (now Fiocchi Munizione SpA).

**GFB, GFG, GFM and GFT** All found on U.S. military firearms and accessories. See 'George F. →Bowen'; 'George F. →Gray'; 'George F. →Morrison'; and 'George F. →Tucker' respectively.

**GFZ** *sometimes in the form of a monogram.* A mark associated with Georg →Fahrman of Zella-Mehlis.

**GG** *usually in the form of a monogram.* This mark was used on ammunition made in France by →Gevelot & Gaupillat and their successors, →Société Française des Munitions.

**GG** *beneath an eagle:* see 'Gr rG'.

**GG** Found on U.S. military firearms and accessories. See 'Guert →Gansevoort'.

**GGB** *pierced a horizontal arrow.* A trademark associated with George Gibson →Bussey of Peckham, London.

**GGB** Found on U.S. military firearms and accessories. See 'George G. →Bowe'.

**GGS** Found on U.S. military firearms and accessories. See 'G.G. →Saunders'.

**GH** Found on U.S. military firearms and accessories. See 'George →Haines', 'George →Hosmer'.

**Ghaye** A Liège-based gunsmith, Ghaye, in the 1850s, developed a sliding-barrel system operated by an underlever ahead of the trigger. The original pattern was hinged at the tip of the fore end, pulling the barrel forward by means of an intermediate link when the lever grip was pulled down. Guns were made in many styles, though back action locks were customary. Military prototypes usually have a barrel band and a nose cap, whereas sporters and shotguns will have half-stocks or no fore-ends at all. Despite inherent weaknesses, the simple Ghaye system was popular in Belgium and France for many years, though the layout was often reversed so that the operating lever pivot lay immediately ahead of the trigger. This allowed the breech link to push the barrels away from the standing breech instead of pulling them; most of the rifles made in the 1860s by Jamar Smits of Liège followed this pattern. Ghaye also made revolvers in the 1870s.

**GHD** Found on U.S. military firearms and accessories. See 'Guy H. →Drewry' or 'George H. →Dupee'.

**ghf** Allocated in 1941 to Fritz →Kiess & Co GmbH of Suhl, for use on small-arms components made for the German armed forces.

**GHG, GHH and GHM** Found on U.S. military firearms and accessories. See 'George H. →Graham'; 'George →Hubbard'; and 'G.H. →Munroe' respectively.

**ghn** Found on German rifle- and other small-arms components made in 1941–5 by Carl →Ullrich & Co. of Oberschönau in Thüringen.

**GHS** Found on U.S. military firearms and accessories. See 'Gustavus H. →Scott', 'Gilbert H. →Steward'.

**GIAT**; Saint Cloud, France. Groupement Industriel des Armements Terrestres, formed in 1950, better known by its acronym, is responsible for the operations of the state-run ordnance factories (e.g., →MAS). The name was changed to 'GIAT Industries' in 1990.

**Gibbs** George Gibbs ['Ltd']; Bristol, Gloucestershire. This English gunmaking business began trading in 1841 from 141 Thomas Street, succeeding the short lived 'J. & G. Gibbs' of Redcliffe Street. A move to 20 Clare Street took place in 1850, and then to 29 Corn Street in c. 1860. By 1914, premises were being used in 37 Baldwin Street, Bristol, and 85 Savile Row, London. Gibbs was renowned for his single-shot match rifles, initially cap-locks but then built on the →Farquharson action; however, the name will also be found on self-cocking →pepperboxes dating from the middle of the nineteenth century, →Lee-Metford and →Lee-Enfield rifles, and also on a variety of shotguns. Shotgun cartridges were sold under brandnames such as →Bristol and →Farm. Mauser-type rifles were chambered for a selection of proprietary cartridges, including the .256 Gibbs Magnum (introduced c. 1913) and the .505 Rimless Magnum of 1910–11. Actions were bought from the →Mauser factory in Oberndorf prior to 1914, though post-1920 guns showed greater variety.

**Gibbs** Lucius H. Gibbs of Oberlin, Ohio, and New York City was grantee of U.S. Patents 5316 of 2nd October 1847, protecting a revolver; 14057 of 8th January 1856 for a breech-loading carbine (q.v.); and 21294 of 26th October 1858 for a method of patching ball ammunition.

**Gibbs Arms Company**; New York City. Assignee of patents granted to Lucius H. Gibbs, responsible for the licensing of the Gibbs breech-loading carbine. Possibly a partnership of Lucius Gibbs and William Brooks, it had been dissolved by the time the Civil War ended in 1865.

**Gibbs carbine** Patented in January 1856, this was one of the lesser known Civil War weapons. On 18th December 1861, the Ordnance Department contracted with William →Brooks of New York City for ten thousand Gibbs carbines at \$28 apiece. Brooks sub-contracted most of the work to William →Marston's Phoenix Armory, but the factory was destroyed on 13th June 1863 during the New York Draft Riots, and the contract was terminated after only 1052 guns had been accepted by the army. The .52 calibre Gibbs operated similarly to the Gallagher (q.v.), as a lever, formed as the trigger guard, tipped the barrel forward and upward at the breech to receive a new cartridge. Unlike the Gallagher carbine, however, Gibbs' pattern fired a combustible paper cartridge.

It had a distinctive underlever with a ring tip.

**Gibbs-Farquharson-Metford:** see 'George →Gibbs' and 'John →Farquharson'.

**Gibbs Rifle Company;** Martinsburg, West Virginia, U.S.A. Owned by the →Navy Arms Company, this business succeeded to the rifle-making operations of →Parker Hale in 1990, perpetuating many Parker Hale Mauser rifles but also introducing new patterns. See also 'Midland' and 'Scout'.

**Gibson** Abram Gibson; Worcester, Massachusetts, U.S.A. Designer of a revolver with cylinder and barrel 'swinging away from the recoil shield', protected by U.S. Patent 29126 of 10th July 1860. Originally assigned in part to Joseph Hale, rights to the patent were subsequently acquired by →Smith & Wesson.

**Gibson** Sidney L. Gibson, a lieutenant in the U.S. Army, accepted U.S. military High Standard pistols in 1941. The guns were marked 'SLG'. See also "U.S. arms inspectors' marks".

**Gidrol;** rue Désirée 15, Saint Étienne, France. Listed in 1892 as a gunmaker.

**Gielgud** Henry Gielgud, often mistakenly listed as 'Grelgud': see →Providence Tool Company.

**Giffard** Paul Giffard, born in Paris in 1837, died in 1897 after half a lifetime had been spent perfecting pump-up pneumatic and gas-powered guns. Had the inventor not been determined to promote his designs as military weapons—they clearly had minimal offensive potential—and turned his attention to replacing the saloon rifles that were popular in his day, Giffard may have enjoyed great success. The gas guns (often advertised under the brand name →Carbona) were made in Europe successively by →Rivolier fils of Liège, Société →Stéphanoise d'Armes of Saint-Étienne, and →Manufacture Française d'Armes et Cycles. Small numbers were made in Britain by the →International Giffard Gun & Ordnance Co. Ltd; and →Colt's Patent Fire Arms Mfg Co. is said to have acquired rights to the Giffard Gun for the staggering sum of one million dollars. Protection obtained by Giffard included British Patent 2931/62, sought from '66 Boulevard des Batignolles, Paris', which was granted on 30th October 1862 to protect a pneumatic rifle charged by a longitudinally-sliding pump under the barrel (the precursor of the 1899 type →Benjamin). U.S. Patent 41500 of February 1864 was comparable. British Patent 21/72 of 3rd January 1872 protected a gun accepting a separately-charged cartridge (the →Saxby Palmer system in embryo), specifications being filed from '12 rue de la Pépinière', Paris. U.S. Patent 136315 of 25th February 1873 protected a gun with a detachable gas cylinder beneath the barrel, and 136316 allowed claims for a gas-powered cane gun. British Patent 2077/86 of 7th January 1887 featured an improved self-contained gas cartridge and a single-shot rifle to chamber it. Giffard's domicile was then 'Boulevard St Denis' in Paris. British Patent 11050/89 was granted on 21st September 1889 for an improved version of the single-shot gas gun patented in the U.S.A. in February 1873; U.S. Patent 452882 of May 1891 was essentially the same. British Patent 10308/90 of 15th November 1891, the last relevant design to be protected by Giffard before he died, protects another gas cylinder. Among the inventors who

tried to improve the basic Giffard concept were John →Wallace and Benjamin Thomson, patentees of the hammerless Giffard rifle made in Britain.

**Giffard Gun & Ordnance Co. Ltd** ["The..."]. Trading from Cophthall House, Cophthall Avenue, London EC, this promotional agency was formed about 1894 to succeed the short-lived →International (Giffard Gun) Company and continue the exploitation of patents granted to Paul →Giffard and, eventually, for modifications made to Giffard's designs by John →Wallace and Benjamin →Thomson. The Giffard Gun & Ordnance Co. Ltd was still trading in 1909 from Cophthall Avenue, but the factory in North Finchley, London, was closed in 1913 after only a small number of hammerless gas-powered guns had been made.

**Gifford** A.W. Gifford of Boston, Massachusetts, designed a method of securing the flights of airgun darts: see U.S. Patent 177932 of 1876, which Gifford assigned to A.A. →Pope.

**Gilbert** J.M. Gilbert, a lieutenant-colonel in the U.S. Army, accepted .45 M1911 (Colt) pistols during the First World War. They were marked 'JMG'. See also "U.S. arms inspectors' marks".

**Gilbert** Ralph Benjamin Gilbert, a 'Gentleman' of 174 Victoria Road, Aston Manor, Birmingham, designed an improved loading tap for the →Jeffries Pattern BSA air rifles: British Patent no. 19417/08 of 1908. Possibly only a prototype was ever made, and the advent of the First World War may have hindered exploitation.

**Gilks** Charles H. Gilks. First mention of this English gunmaker occurred in 1857, when his addresses were listed as 3 Union Row, Tower Hill, London E, and 37 →Minories. Trading was still being undertaken from the Union Row premises, together with 67 Minories and 327 Wapping High Street, when 'Gilks, Wilson & Company' was formed in 1864. The Union Road shop was thereafter the sole location. Gilks, Wilson & Company were succeeded by 'C.H. Gilks & Company', which traded until 1880.

**Gill & Company;** 5 High Street, Oxford. The marks of this English gunmaking business have been reported on shotgun cartridges made by →Nobel, and sold under the brand name →Dead Shot.

**Gill** London gunsmith John Henry Gill, later trading as 'John H. Gill & Sons' and then 'John H. Gill & Sons (Leeming Bar) Ltd', is known to have marked →Greenwood & Batley shotgun cartridges sold under the brand name →Sproxton.

**Gillingham** ["The..."]. Found on 12-bore shotgun cartridges made by →Kynoch Ltd for →Strickland of Gillingham prior to the First World War.

**Gillman** J. Gillman & Son; Birmingham, Warwickshire. This English gunmaking business, trading in the 1930s from the corner of Stafford Street and Corporation Street, is known to have handled sporting guns and ammunition.

**Gillon:** see 'A. →Gilon'.

**Gilmore** L.G. Gilmore, a government inspector working in 1895–1905, accepted small arms marked 'LGG'. See also "U.S. arms inspectors' marks".

- Gilon** A. Gilon; Liège. A maker of →Colt-copy cap-lock revolvers in the mid-nineteenth century, and (perhaps the work of a son of the same name) →Velo-Dog patterns at a later date. Trading is believed to have ceased shortly after the German army invaded Belgium in August 1914.
- Ginklu Fondas** *and a stylised crown*. A mark found on the chambers of →Mauser type rifles used by the Latvian army prior to 1939. It apparently means 'arms fund'.
- Girard** C. Girard & Cie; Paris. Gunsmiths and gun-dealers, renowned for supplying sporting guns and for their entrepreneurial role in the American Civil War, when countless thousands of inferior guns, purchased in Liège, were sent to the Federal army.
- Girard** François Girard; Saint-Étienne, France. Listed in 1933 as a gunmaker.
- P. Girard**; Saint-Étienne, France. Listed in 1933-vintage directories as a gunmaker.
- Giraudet**; 23 rue de Terrenoire, Saint Étienne, France. Listed in 1951 as a gunmaker.
- Giraudon**; boulevard Poincaré, Saint-Étienne, France. Working as a gunmaker in 1951
- Girodet** François Girodet; rue de la Paix 18, Saint-Étienne, France. Listed in 1879 as a distributor of and agent for arms and ammunition.
- Giss** Kurt Giss. The designer and co-patentee with →Mayer & Grammepslacher of the 'contra-piston' recoil suppressing system embodied in a range of modern Diana airguns: the LP6 and LP10 pistols, the LG60, LG65, LG66, LG70 and LG72 barrel-cocking rifles, and the LG75 series of fixed-barrel sidelever cockers. Relevant protection included British Patent 803028, sought in March 1956 and granted on 15th October 1958.
- GJM, GKC and GKJ** All found on U.S. military firearms and accessories. See 'G.J. →McCallin', 'George K. →Charter' and 'G.K. →Jacobs'.
- gkp** Associated with German optical sights and associated components made by the former Carl Schütz factory of →Ruf & Co, Kassel, during the Second World War.
- GL** *floriated monogram*. This identified guns (usually →Parabellum pistols) that had been produced under the personal supervision of Georg →Luger.
- GL** A trademark, often in the form of a monogram, associated with the products of Gebr. →Luck of Suhl.
- Gladiator** This name, sometimes applied to the French Chauchat or →CSRG light machine-gun, is generally ascribed to one of its designers. However, it applies to the original promoter: *Fabrique des Cycles et Automobiles 'Gladiator'*, a manufacturer of bicycles and motor vehicles in peacetime.
- Glaser** W. Glaser; Zürich. The leading Swiss gun-distributing business of recent times was officially registered by Wilhelm Friedrich Glaser of Binningen in December 1908. Glaser sold target and sporting rifles, shotguns, pistols, sub-calibre barrel inserts, and a wide variety of accessories, and had even commissioned a small quantity of 'training pistols' from →Francotte prior to 1914; these had the general outline of a →Parabellum, then the regulation

Swiss service pistol, but were blowbacks. Friedrich Aeschlimann and Heinrich Landis acquired operations in 1934, but continued to trade as 'W. Glaser' until stock was issued in 1957 and 'W. Glaser Waffen AG' was formed. Premises were being occupied at Loewenstrasse 42 in the 1980s.

**Glatt** A German-language term applied with to guns with a smooth-bore barrel or to a smooth-skirted airgun pellet (cf., *Geriffelt*, 'rifled').

**Glaysher** John Glaysher or 'Glasier'. A gunsmith trading in London from 2 George Yard, Prince's Street, Soho (1865B9), and then 12 Denmark Street (1869B70).

**Glenfield** A brand name associated with rifles made by →Marlin.

**Gliddon & Son**; Williton, Somerset. This distributor of agricultural equipment is said to have handled sporting guns and ammunition in south-west England under the brandname →Exmoor.

**Globe** Spring-and-piston BB Guns initially made by →Anderson Brothers Company of Plymouth, Michigan, U.S.A., in accordance with a patent granted to Merritt F. →Stanley on 28th January 1890. Later examples, however, were the work of the →Dubuar Company of Northville, Michigan. Globe guns came in three versions. Made by Anderson in 1890–2, the oldest was a single shot break-open pattern with a cast-iron frame and butt. Next came a similar gun made by Dubuar (usually dated to 1892–4 but possibly later) with a smaller frame and a hardwood butt. The third gun was a more ornate version of the second pattern, with a large 'G' cast integrally in the frame above the trigger guard.

**Globe Manufacturing Works**; Northville, Michigan. Arni Dunathan, writing in *The American BB Gun*, states that this business had no connection with Dubuar, maker of the →Globe pattern BB Guns. However, it is difficult to conclude that no links existed with Merritt Stanley. The Globe Works were burned down in 1899, but most of the workforce was then transferred to Dubuar! It seems possible, therefore, that the Globe Works made the Globe guns after the split with Anderson Brothers, and that Dubuar was the third contractor instead of the second. This may mean that the Anderson made Globe dates from 1890–2, the Globe version from 1892–9, and the Dubuar pattern from 1899 until c. 1902.

**Glock GmbH**; Deutsch Wagram, Austria. Maker of the Glock automatic pistols (q.v.).

**Glock pistol** The *Model 17* semi-automatic, designed by the Austrian engineer Gaston Glock, was introduced in 1983. Owing to the incorporation of many synthetic parts, the Glock became renowned—without reason—as the →undetachable terrorist's gun that could be taken through the X-ray surveillance equipment commonly encountered at airports and border crossings. The most interesting feature of the pistol, which employs a variation of the →Browning tipping-barrel lock, is the small auxiliary 'safety trigger' set into the trigger blade to ensure that the gun cannot be fired unless the firer deliberately pulls through on the trigger. Glockes have squared

contours and are fired with the assistance of striker inside the breech-block. Among the many variants have been the long-barrelled *Model 17L*, chambered for the 9mm Parabellum (9×19) cartridge; the *Model 18C*, a special 9×19 variant capable of fully automatic fire; the compact *Model 19*, with a short barrel and slide; the 10mm Auto *Model 20*; the .45 ACP *Model 21*; the .40 S&W *Models 22 and 23*, differing in size; and the 9mm Short/.380 Auto *Model 25*. The *Model 24* is essentially a *Model 17L* chambering .40 S&W ammunition, and the otherwise identical *Model 24C* has a compensator fitted to the muzzle. The *Model 26* (9×19) and *Model 27* (.40 S&W) 'Sub-Compact' versions have short butts, restricted-capacity magazines, and barrels that measure merely 88mm. Magazine capacities customarily vary from thirteen to seventeen rounds, depending on calibre; however, a 33-round box can be obtained with the *Model 18C*.

- Gloria** A Spanish Browning-type pocket autoloader made by Gregorio →Bolumburu of Eibar in at least two patterns: 6.35mm, six rounds, striker fired, sometimes marked 'MODEL 1913'; and 7.65mm, seven rounds, hammer fired, often marked 'MODEL 1915'.
- Gloucester** ['The...']. A mark found on shotgun cartridges sold in England by Edward →Fletcher of Gloucester.
- Glove pistols:** see 'S.M. →Haight'.
- GLP and GLW** Found on U.S. military firearms and accessories. See 'G.L. →Prentice' and 'Grover L. →Wotkyns'.
- GM** often in monogram form. Associated with the sporting guns made in Suhl by Gebr. →Merkel.
- GMC in a diamond.** A mark found on a .22-calibre semi-automatic pistol made in Argentina in the 1940s by →Garbi, Moretti y Cia of Mar del Plata.
- GMC** Found on U.S. military firearms and accessories inspected by George M. →Colvocressus.
- GMR** Found on U.S. military firearms and accessories. See 'George M. →Ransom'.
- Göcking** H. Göcking of Zella Mehlis in Thüringen, Germany, was listed in the 1939 edition of the *Deutsches Reichs-Adressbuch* as a master gunsmith.
- Godins Ltd** of Newport, Monmouthshire, Wales, made box magazines for the British .303 →Bren Gun during the Second World War, often marking them with the code 'M 91' instead of the company name. See also "British military manufacturers' marks".
- Goedecke** C. Goedecke & Company, listed as "gunmakers' representative", possibly German, were included in London directories for 1876/7 trading from 5 Grocer's Hall Court, E.C.
- Goessl** Josef Goessl of Suhl in Thüringen, Gothaer Strasse 28, was listed in the *Deutsches Reichs-Adressbuch* for 1930–9 as *Gewehr- und Waffenfabrik*: 'gun and weapon maker'. An entry in the 1940 directory notes that Goessl made sporting guns and accessories, in addition to acting as 'weapons depot' (*Waffenlager*) for 'Stahlwerke →Harkort-Eicken'. Goessl used a 'J.G.S.' mark,

some examples taking the form of a monogram.

**Goff:** see also 'Gough'.

**Goff** Samuel F. Goff. This gunmaker was listed by H.J. Blanch, writing in *Arms & Explosives* in 1909, at 15 New Street, Covent Garden, London (1879). Goff traded from 17, 18 and 22 King Street, Covent Garden, in 1884–9 (latterly as 'Samuel F. Goff & Company') and from 32 Brompton Road (1889 only). Operations seem to have ceased in 1890.

**Gold** George E. Gold; Castle Mill Street, Bristol, Gloucestershire. The name of this English country gunmaker has been reported on shotgun cartridges marked 'The Popular'.

**Gold Cup Commander** Introduced in 1991 by →Colt's Manufacturing Co., Inc., this had target sights, a bevelled magazine well, chequering and serrations on the grip straps, and an extra-wide grip safety.

**Gold Cup National Match.** Dating from 1957–70, made by →Colt's Patent Fire Arms Mfg Co. prior to 1964 and thereafter by the Firearms Division of →Colt Industries, these .38 Super and .45 ACP target-shooting versions of →Government Model semi-automatic pistols had hand-fitted barrels and barrel bushings, honed components in the lockwork, relieved sears and lightened trigger blades in a quest for perfection. Most guns had 'NM'-suffix erial numbers and medallions set into their grips. The *Mark III* (1961–74) was specifically chambered for .38 Special Mid-Range Wadcutter ammunition, whereas the *Mark IV* of 1970–83 (subsequently known as the 'Mark IV Series 70') had a flat mainspring housing, a target hammer, an improved barrel bushing, and a Colt-Elliason back sight. Two hundred '75th Anniversary National Match' commemorative pistols were made in 1978, celebrating the first competition held at Camp Perry. The 'Gold Cup National Match Mark IV Series 80' (introduced in 1983) had improvements in the trigger and sights, hand-honed parts, and could accept an eight-round magazine; a 'Stainless Gold Cup National Match' followed in 1986. The advent of Colt's Manufacturing Co., Inc., brought two new guns in 1991: the →Bullseye National Match and the cased 'Presentation Gold Cup National Match', with a mirror-blued finish and jewelled parts.

**Gold Target** Applied by H. →Krieghoff GmbH to engraving patterns applied to the K-80 over/under shotgun. The design consists largely of boldly-cut acanthus leaves and tendrils, radiating from a central point on the receiver-side, within a gold monoline. See also 'Bavaria', 'Bavaria-Suhl', 'Crown Grade', 'Danube' and 'Parcours Special'.

**Golden** Charles Golden; Bradford, Yorkshire. This gunmaker began trading on his own account in 1864, from 18 Cheapside, and worked until 1900 or later. His marks have been found on British shotgun cartridges loaded with →Schultze powder, and thus pre-dating 1914.

**Golden** William Golden; Huddersfield, Yorkshire. The name of this gunmaker has been reported on shotgun cartridges made by →Kynoch. Though Bailey & Nie, in *English Gunmakers*, record Golden only at 2 & 3 Cross Church Street in

1833–65, trading must have continued—possibly under the proprietorship of a similarly named son—until 1900 or later.

**Golden Eagle.** A thousand shot lever-action Model 50 made in the U.S.A. by →Daisy to commemorate fifty years of BB Gun production. Introduced in 1936 with a coppered finish and a tricolour eagle motif on the blacked wood butt, it was discontinued in 1949 (though little or no manufacturing had been done since the end of 1941).

**Golden Eagle.** Another thousand shot lever action BB Gun, the No. 98 or 'Daisy Eagle', made by →Daisy from 1955 until 1961 with a paint finish, a fixed 2× telescope sight, 'gold' frame decoration and an eagle impressed into the wood butt. It reappeared in 1975 with an embossed eagle medallion set in the synthetic butt, but lasted only until 1978.

**Golden Eagle.** The 500 shot No. 104 lever-action BB Gun was made by →Daisy in the U.S.A. in 1966–7 with a plastic 'peep' telescope sight, but then became the 'Model 1776' (1968–73) before reverting in 1973–7 to 'Model 104' once a crossbolt safety catch had been added.

**Golden Eagle Rifles, Inc.,** of Houston, Texas, U.S.A., offered 'Golden Eagle Model 7000' bolt-action rifles (c. 1976–82) in chamberings ranging from .22–250 to .458 Winchester Magnum. Locked by a distinctive five-lug mechanism, the guns were made in Japan by the →Nikko Firearms Mfg Co. of Tochigi.

**Golden Flash** ['The...']. A brand name used by →Garrett of Evesham on shotgun cartridges sold in England.

**Golden Pheasant** ['The...']. A brand name found on British shotgun cartridges handled by →Hopkins of Leighton Buzzard.

**Golden State Arms Corporation;** Pasadena, California, U.S.A. This gunmaking business was responsible for →Mauser-type sporting rifles made on →Santa Barbara actions in the 1960s. They were marketed as the →Centurion series.

**Goldberg** 'Reuben Goldberg'. A patent granted in Britain in April 1934 to this inventor illustrated an 'improved belt buckle gun' based on a twelve-shot pepperbox or barrelless revolver. This would have chambered weak short-case ammunition such as 4mm Übungsmunition or .22 Short rimfire, but at least one 7.65mm-calibre belt buckle of a differing design was taken back to the U.S.A. in 1945 as a war trophy. Its buckle-like case contains a hinged block of four barrels, which springs outward when the twin release catches are pressed. Each barrel has an independent hammer and trigger mechanism, though they can be fired as a volley if required. The name of the supposed inventor has been questioned, as 'Rube Goldberg' has been used in the U.S.A. for the promoters of gimcrack or unnecessarily complicated machinery (cf., 'Heath Robinson' in Britain) and it has been speculated that, in the case of the belt-buckle gun, it is a little more than a pseudonym. More research is clearly needed...

**Golding** The name of English country gunmaker G.E. Golding of Watton, Thetford, Norfolk, has been reported on shotgun cartridges sold under the brand name →Wayland.

- Golding** William Golding began his career as a gunsmith in London at 3 Marylebone Street, Piccadilly, in 1827. He subsequently traded from 199 Oxford Street in 1829–31; 1 Duke Street, Grosvenor Square, in 1831–42; 27a Davies Street, Berkeley Square, in 1843–53; and lastly from 3 Mount Row, Berkeley Square from 1855 until his death in 1859.
- Goldmark** Joseph Goldmark of New York City, established himself in 1852 as a maker of caps, primers and cartridges. He also made rimfire ammunition during the American Civil War. These cartridges were usually →headstamped ‘J.G.’, often with a short underscore. However, soon after exhibiting at the Centennial Exposition held in Philadelphia in 1876, Goldmark ceased trading; the 1877 New York directory is the last in which an entry appears. He was granted U.S. Patent 10262 in November 1853 to protect method of manufacturing percussion caps.
- Goldsborough** John R. Goldsborough, also listed as ‘Goldsboro’, who held captain’s rank in the Federal navy, accepted →Colt, →Savage and →Whitney cap lock revolvers during the American Civil War; these guns were marked ‘JRG’. See also “U.S. arms inspectors’ marks”.
- Gonon**; Rue Mulatière 83, Saint-Étienne, France. Listed in 1892 as a gunmaker.
- Gonon** G. Gonon; rue Badouillère 18, Saint-Étienne, France. Listed in 1892 as a gunmaker.
- Gonon** Jean Gonon; grande rue Saint Roch 1, Saint-Étienne, France. Listed in 1879 as a gunmaker.
- Gonon** Régis Gonon; cours Jovin Bouchard, Saint-Étienne, France. Listed in 1892 as a gunmaker.
- Gonon et Portafaix**; Saint-Étienne, France. Listed in 1933 as gunmakers, and in 1951 at 8 rue Henri Barbusse.
- Gonon Veuve et fils**; rue Villeboeuf 15, Saint-Étienne, France. Listed in 1892 as a gunmaker.
- Goodenow Manufacturing Company**; Erie, Pennsylvania, U.S.A. The original distributor and probable manufacturer of the gas powered guns associated with the →Challenger Mfg Co., and, later, of a similar range of guns offered under the →Plainsman name. Production seems to have been confined to 1953–8.
- Goodrich** Charles N. Goodrich, a Federal arms inspector working in 1863, accepted small arms marked ‘CNG’. See also “U.S. arms inspectors’ marks”.
- Goodwood** [‘The...’]. This name will be found on shotgun cartridges loaded by Russell →Hillsdon.
- Goold** Lewis William Goold, a patent agent working from ‘5 Corporation Chambers, Birmingham’, acted for Edwin →Anson and Lincoln →Jeffries & George Urry in 1906–21. See British Patents 20744/06 and 21324/06 of 1906, 24837/07 of 1907, and 178048 of about 1921. See also ‘Sadler & Goold’.
- Goring** G.R. Goring, a government arms inspector working in 1909–10, accepted military small arms marked ‘GRG’. See also “U.S. arms inspectors’ marks”.
- Görting** August Görting & Co. of Mengersreuth-Hämmern bezirks Sonneberg

was listed in German trade directories in 1941 as a maker of 'weapons', and is assumed to have been a gunsmith.

**Gorton** Walter T. Gorton, ranking as a major in the U.S. Army, inspected .45 M1911 and M1911A1 (Colt) pistols marked 'WTG'. He was active from c. 1925 until the late 1930s. See also "U.S. arms inspectors' marks".

**Goryunov** Mikhail Mikhailovich Goryunov, born in 1912, was the younger brother of Petr Goryunov. He had worked on the land until joining the Kolomna engineering factory in 1930, then moved to the Kovrov machine-gun factory in 1934 (retiring in 1972 as deputy-director of production). With the assistance of Vasily →Voronkov, he was responsible for perfecting the SG machine-gun after the death of his brother Petr and received a U.S.S.R. State Prize after the Second World War had ended.

**Goryunov** Petr Maximovich Goryunov, born in the village of Kamenka in 1902, the son of a peasant, began work as a fitter in the Kolomna engineering factory at the age of ten. After serving in the Red Army during the Civil War, he returned to work in Kolomna until a move to the Kovrov machine-gun factory in 1930 brought him experience of small-arms design. He is best known as the designer of the Soviet SG or Goryunov machine-gun, finished by others after P.H. Goryunov's untimely death in 1943. A U.S.S.R. State Prize was awarded posthumously in 1946.

**Goryunov machine-gun** Also known as the 'SG' or 'SG-43', this gun was basically the work of Petr →Goryunov, though finished after his death by Mikhail Goryunov and Vasilii Voronkov. The 7.62mm gas-operated gun was locked by displacing the breech-block laterally; it was sturdy and, once teething troubles had been overcome, proved to be efficient. Large quantities of the basic SG, the improved SGM and vehicle (SGMB) and tank (SGMT) versions were made, but they were eventually replaced by the →Kalashnikov-designed PK series.

**Gosney** Durward Gosney: see 'Garand'.

**Goth** Frederick Goth: see 'Henry →McKenney'.

**Gould** H.G. Gould, a government arms inspector working in 1898, accepted U.S. martial small arms marked 'HGG'. See also "U.S. arms inspectors' marks".

**Goutelle Berne**; rue Saint Roch 11, Saint-Étienne, France. Listed in 1879 as a gunmaker.

**Goutelle fils**; rue Saint Roch 3, Saint-Étienne, France. Listed as a gunmaker in 1892.

**Goutelle Thiver**; rue Neuve 21, Saint-Étienne, France. Listed in 1879-vintage directories as a gunmaker.

**Government Model** Applied to the M1911 and M1911A1 pistols derived from the experimental 1909-pattern →Browning pistol. The *Pistol, Semi-Automatic, Colt, Caliber .45, Model of 1911* was adopted by the U.S. Army on 29th March 1911, and about 650,000 military-issue and 138,500 commercial guns, customarily distinguished by 'C'-suffix numbers, were made in 1911-25.

¶ U.S. military Colt-Browning pistols were also made by a variety of contractors other than →Colt's Patent Fire Arms Mfg Co. For example,

→Springfield Armory made about 30,000 in 1914–15, before priorities were allocated elsewhere. When the First World War began, orders totalling 2.55 million guns were placed as part of an attempt to accelerate production of all military stores. Licencees included →Remington-UMC of Bridgeport, Connecticut; the →National Cash Register Company of Dayton, Ohio; the →North American Arms Company of Quebec, Canada; Caron Brothers of Montreal, Canada; the →Savage Arms Company of Utica, New York State; the →Burroughs Adding Machine Company of Detroit, Michigan; the →Winchester Repeating Arms Company of New Haven, Connecticut; the →Lanston Monotype Company of Philadelphia, Pennsylvania; and the A.J. →Savage Munitions Company of San Diego, California.

¶ However, when fighting ceased in November 1918, only Colt and Remington had completed any guns. Outstanding contracts were immediately cancelled, though the North American Arms Company assembled about a hundred M1911 pistols in 1918–19 and the Savage Munitions Company had delivered a few hundred slides.

¶ About twenty thousand of a special .455 version of the M1911, with 'W'-prefix numbers, were supplied to Britain during the First World War. Most of them served the Royal Flying Corps and, ultimately, the Royal Air Force. Guns were made under licence by →Kongsberg Vapenfabrikk in Norway, as the 11.25mm *m/1912* and *m/1914* (the latter with an extended slide-release catch); others were supplied to Argentina in 1917–25, as 'Mo. 1916'; and a large contract, possibly 50,000, was placed by the Russians prior to the Revolution. These were supplied through intermediaries in Britain and have frames marked 'АНГЛ. ЗАКАЗ.' in Cyrillic (*Angliskii Zakazivat*, 'English Order').

¶ The improved 'M1911A1' pistol, adopted in 1926, laid the groundwork for innumerable variations on the same theme. According to U.S. Ordnance Board figures, 1,878,742 M1911A1 pistols were procured during the Second World War, though this figure is believed to have included refurbished pre-war guns and may also have included unfulfilled orders. Other claims suggest that military production amounted only to about 1.643 million guns (1925–70), plus those made for commercial sale: 76,500 prior to 1942, with 'C'-suffix numbers, and 196,000 mostly 'C'-prefix examples dating from 1947–70.

¶ Guns of this type were also supplied to Argentina, Brazil and Mexico, usually from commercial stores; however, Argentine authorities subsequently made pistols of their own as the 11.25mm *Pistola Automatica Sistema Colt Mo. 1927* before proceeding to the →Ballester Molina.

¶ M1911A1 pistols were made during the Second World War by the →Ithaca Gun Company of Ithaca, New York; by →Remington-Rand, Inc., of Syracuse, New York State; by the →Union Switch & Signal Company of Swissvale, Pennsylvania; and by the →Singer Mfg Co., of Elizabethville, New Jersey. Use of sub-contractors was encouraged during the Second World War when, for example, barrels were made by the →High Standard Mfg Co. and by the →Flanney Bolt Company.

¶ Markings are usually self-explanatory. They include acknowledgements of patents granted to John →Browning and the manufacturer's name (excepting the Savage slides). Additional marks may have been applied to guns refurbished or 're-worked' by military facilities such as Augusta Arsenal ('AA'), Benicia Arsenal ('BA'), →Rock Island Armory ('RIA') and →Springfield Armory ('SA').

**Government Model 380** Introduced in 1984, chambering the ineffectual .380 ACP (9mm Short) cartridge, this was a reduced-scale version of the full-size .45 ACP pattern—retaining the tipping-barrel breech lock, but with a short-butt frame, a seven-round magazine and a barrel merely 3.5 inches long. The grip safety was omitted, though post-1988 examples had a firing-pin lock. Finish was customarily blueing or nickel plate, though some guns made in 1986–9 exhibited 'Coltguard' electroless nickelling. A stainless-steel version dates from 1989, and a *Government Model Pocketlite* appeared in 1991 with an alloy frame.

**Governor** Usually encountered as 'The Governor', accompanied by an illustration of a Watt flyball-type engine governor, this was to be found on English shotgun cartridges loaded by →Coltman of Burton upon Trent for an unidentified retailer with the initials 'J.S. & S.'

**Governor** Two differing sheath trigger →Suicide Special revolvers made in the 1880s by the →Bacon Manufacturing Company and the →Hopkins & Allen Arms Company of Norwich, Connecticut, U.S.A.

**Gow.** John R. Gow & Sons; Dundee, Angus. This Scottish gunmaking business sold sporting guns, accessories and ammunition C including shotgun cartridges marked →Tayside.

**Gowling.** Frederick Gowling. A gunsmith with premises at 21 Eversholt Street, Oakley Square, London N.W., in 1873B5.

**Gowrie.** E.A. Gowrie, a U.S. government arms inspector working from 1903 to 1910 or later, accepted military small arms marked 'EAG'. See also A.U.S. arms inspectors' marks".

**G.P.** ['The']('The Grand Prix'). Found on shotgun cartridges made in England by →Eley Kynoch Ltd.

**GP** Found on U.S. military firearms and accessories. See 'George →Palmer', 'Giles →Porter'.

**GPH** Found on U.S. military firearms and accessories. See 'George P. →Howland'.

**GPMG:** see 'General Purpose Machine Gun'.

**gpt** Used by Gustav →Bittner of Weipert, Bohemia, on signal pistols and small-arms components made during the German occupation of Czechoslovakia in 1940–5.

**gqm** Found on German rifle- and other small-arms components made in 1941–5 by →Loch & Hartenberger of Idar/Oberstein.

**G.R. beneath a crown.** Found on British weapons: the mark of Kings George V (1910–36) and George VI (1936–52). See also 'Cyphers, imperial and royal'.

**GR cursive, beneath a crown.** Found on the weapons of Saxony: the mark of King

- Georg (1902–4). See also ‘Cyphers, imperial and royal’.
- Gräbner** Georg Gräbner of Rehberg bei Krems an der Donau, Austria, distributed →Erika and →Kolibri pistols (made by Franz →Pfannl) in the 1920s.
- Graceful** A brand name associated with a revolver made in Belgium prior to 1914 by A. →Bertrand.
- Grafton** [“The...’]. Found on shotgun ammunition loaded in Britain for Frank →Clarke of Thetford and →Harrison & Hussey of London.
- Grägl**: see →Froewis Grägl.
- Graham** George H. Graham, a Federal arms inspector working during the Civil War, accepted cap-lock revolvers and other small arms marked ‘GHG’. See also “U.S. arms inspectors’ marks”.
- Graham** G.P. Graham; Cockermouth, Cumberland. The name of this northern English gunmaker has been reported on shotgun ammunition sold under the brandname →Cumberland.
- Graham** J. Graham & Company; Union Street, Inverness. The name of this Scottish gunmaking business will be found on sporting guns and ammunition, including shotgun cartridges sold under the brandnames ‘Bon Ton’, ‘Highland’ and ‘Primo’. The names are also often accompanied by the Inverness coat of arms, which are (most unusually) supported by a camel and an elephant.
- Graham** J.R. Graham. This government arms inspector, working in 1875, accepted U.S. military small arms marked ‘JRG’. Possibly confused with the succeeding entry. See also “U.S. arms inspectors’ marks”.
- Graham** O.R. Graham, a government arms inspector working in 1875, accepted rifles and other small arms marked ‘ORG’. Possibly confused with the preceding entry. See also “U.S. arms inspectors’ marks”.
- Gramm** Otto Gramm of Zella-Mehlis in Thüringen, Germany, was listed in 1939 as a master gunsmith.
- Grammelspacher**: see ‘Mayer & Grammelspacher’.
- Grand Finale** [“The...’]. Found on shotgun cartridges sold in Wales and south-west England by →Atkinson & Co. of Swansea.
- Grand Prix**, or ‘The Grand Prix’. Associated with 12-, 16- and 20-bore shotgun cartridge loaded by the →Schultze Gunpowder Company into cases supplied by →Eley Brothers, Grand Prix ammunition is usually classed as an Eley product; additional confusion arises from the perpetuation of the name by →Eley Brothers, prior to the acquisition of the company by Explosives Trades Ltd in 1918, and then by →Eley Kynoch Ltd.
- Grand Syndicat** [le]; Herstal-lèz-Liège. This group superseded the →Petit Syndicat in April 1870, inspired by the commencement of the Franco–Prussian war and the scabbling by the French for serviceable arms of almost any type. The participants were the members of the Petit Syndicat (→Ancion & Cie, →Dresse-Laloux & Cie; Auguste →Francotte and →Pirlot-Frésart) together with →Benthin, →Beuret, P. →Drissen, →Falisse, →Gulikers, E. →Malherbe, →Mordant, →Renkin frères and la →Société Liégeoise. The intention was to seek large-scale orders which could be split between participants even

though demands were too great in their entirety to be honoured by any single gunmaking firm. Operations ceased in 1876, but not before many thousands of →Chassepot rifles had been made for France, 100,000 Snider actions had been supplied to *la Sublime Porte* (Turkey), 8000 Comblain and 500 Comblain musketoons to Greece, 50,000 Buescu-system rifles and 10,000 musketoons to Romania, and four thousand revolvers to an unidentified power.

**Grande Précision** A Browning-pattern pocket pistol made by, or perhaps for Fabrique d'Armes de →Grande Précision in Eibar, Guipuzcoa, Spain; 6.35mm; six rounds, hammer fired. Possibly made by →Beistegui Hermanos.

**Grande Precision** Fabrique d'Armes de Grande Précision, Extezzaraga y Abitua; Eibar, Guipuzcoa. This business marked a wide range of guns, including autoloading pistols bought in from smaller manufacturers in the district. They included →Ca Si, →Colonial, →Grande Précision (probably made by Beistegui Hermanos), →Helvece, →Jubala (said to have been made by Larranaga y Elartzza), →Jupiter, →Minerva, →Precision, →Princeps (some made made for Thieme y Edeler) and →Trust.

**Grande Puissance** ('Pistolet à Grande Puissance', 'GP'): see 'High Power'.

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

**Grange**; 13 rue des Armuriers, Saint-Étienne, France. Listed in 1951 as a gunmaker.

**Granger**; Rue Saint Roch 21, Saint-Étienne, France. Listed in 1892 as a gunmaker.

**Granger** Albert S. Granger, a Federal government arms inspector working during the Civil War, accepted revolvers and other military small arms marked 'ASG'. See also "U.S. arms inspectors' marks".

**Granite City** ["The..."]. A name found on shotgun ammunition sold in northern Scotland by →Garden of Aberdeen.

**Granjon** Jean Michel Granjon of rue de Roanne 9, Saint-Étienne, France, was listed in 1879 as a distributor of and agent for arms and ammunition.

**Granotier**; Saint-Étienne, France. Listed in 1933 as a gunmaker.

**Grant** A →Suicide Special revolver made in the U.S.A. by William →Uhlinger of Philadelphia, Pennsylvania, in the late nineteenth century.

**Grant** Stephen Grant was a London gunmaker, trading from 67a St James's Street from 1867 onward. The business became 'Stephen Grant & Sons' in 1889, but amalgamated with Joseph →Lang & Sons in 1900. Grant's name has been reported on shotgun cartridges marked 'R.P'

**Grant** Stephen Grant & Lang; 7 Bury Street, St James's, London SW1. The name of this gunmaking business has been reported on shotgun cartridges sold under the names 'Briton', 'Curzon', 'Grantbury', 'Instanter', 'Rocketeer' and 'Velogrant'. After the amalgamation of Stephen Grant and Atkin & Son, the partnership of Grant & Lang acquired →Watson Bros. and Charles →Lancaster & Company. It also supplied about 2500 →Winchester rifles to the British authorities in 1941. The code 'S 202' was allocated to Grant & Lang during the Second World War, but is rarely (if ever) encountered. See also

“British military manufacturers’ marks”.

**Granta** [“The...’]. A brand name associated with shotgun ammunition sold in England by →Gallyon & Sons.

**Grantbury** [“The...’]. Used by →Grant & Lang of London on shotgun ammunition sold in Britain.

**Granton** [“The...’]. Found on shotgun cartridges sold by →Gallyon & Sons, apparently in southern England even though the name could be regarded as having Scottish connections.

**Grant-Suttie** George Donald Grant Suttie, a major in the Black Watch, listed his address as “care of the Caledonian Club, St James’s Square, London, S.W.1” when he sought what were to become British Patents 154662 and 156423 (1920) to protect reservoir-type air or gas guns.

**Granville** Gunsmith William Granville traded in London at 44 Holborn Hill (1857).

**Grapevine** A nickname applied to →Gross-patent cap-lock carbines made by the →Cosmopolitan Arms Company. owing to the serpentine operating lever.

**Gras** Basile Gras is generally credited as the inventor of the metallic-cartridge →Chassepot conversion adopted by the French government in 1874.

**Gras rifle** This was the outcome of a series of trials held in France with the Dutch →Beaumont rifle and a conversion of the →Chassepot needle rifle submitted on 8th May 1873 by Basile Gras, who was then a captain serving in the French army. The Gras was a simple bolt-action rifle, with a separate bolt head and a lock provided only by the abutment of the bolt-handle base on the receiver bridge. No ejector was fitted, spent cases being removed from the feedway manually (or by simply inverting the rifle so that they fell clear).

¶ The *Fusil d’Infanterie Mle 1874* was duly adopted on 7th July 1874. Like its Chassepot predecessor, it had a slender one-piece stock with iron mounts which included a barrel band and a nose cap. Many needle-rifles were converted to Gras standards by boring-out the breech to receive a liner chambered for the new metal-case cartridges: these were known as ‘Mle 1866/74’; *Mle 74/80* guns were improved by the addition of an annular gas-escape port in the bolt head and a relieving groove cut into the left side of the bolt way.

¶ The Mle 1866/74 converted and Mle 1874 newly-made *Carabines de Cavallerie* were similar to the infantry rifle, but had an additional barrel band and the bolt handle was turned down against the stock. There were two patterns of *Carabines de Gendarmerie* and a *Mosqueton d’Artillerie* (artillery musketoon), which, apart from chambering, duplicated the design of the →Chassepot variants from which they were derived.

¶ The basis Gras action subsequently provided the basis for the →Kropatschek and →Lebel designs, as well as host for magazine conversions attempted during the 1880s. Many of the guns that survived in 1914 were converted in the early months of the First World War to chamber the standard 8×51R Lebel rifle cartridge; others were converted to fire grenades. The 8mm cartridge

strained the 'Mle 74/80/14' actions to their limits. However, most of them were sent to the colonies where their weaknesses were unlikely to become liabilities.

- Graves** E.A. Graves, a government arms inspector working 1894–1902, accepted martial small arms marked 'EAG'. See also "U.S. arms inspectors' marks".
- Gray** D. Gray & Company of 30 Union Street, Inverness, a Scottish gunmaking business, is known to have marked shotgun cartridges made by →Eley Kynoch. These were handled under names such as →Autokill.
- Gray** George F. Gray, a U.S. government arms inspector working in 1905, accepted military small arms marked 'GFG'. See also "U.S. arms inspectors' marks".
- Gray** Reginald Gray; Doncaster, Yorkshire. The name of this English provincial gunmaker has been reported on shotgun cartridges made by Frank →Dyke and sold under the brand name 'Don'.
- Gray** Samuel Gray, an English gunsmith and sword cutler, was trading from 10 Marshall Street, Golden Square, London, in 1850–1.
- Greason** Gilbert D. Greason, a Federal arms inspector working in 1861–2, accepted small arms marked 'GDG'. See also "U.S. arms inspectors' marks".
- Great Western** Found on a →Suicide Special revolver made by the →Harrington & Richardson Arms Company of Worcester, Massachusetts, U.S.A., in the late nineteenth century.
- Great Western Gun Works**; Pittsburgh, Pennsylvania. Established by John H. Johnston in 1866, trading from 621 Smithfield Street in Pittsburgh, this gun chandlery moved to 179 Smithfield Street when the original premises buned down in 1868. A further move to 285 Liberty Street took place in 1874. The Great Western Gun Works has been credited with the manufacture of shotguns, sporting rifles, revolvers and even St Louis style →Gallery Guns, but virtually all of the firearms were war surplus, bought in from gunmaking businesses in North America or originating in Europe. Trading ceased in 1916.
- Grebler** A. Grebler, or 'Grebles'; Chicago, Illinois. This U.S. gunsmith, sales agency or shooting-gallery owner has been linked with the manufacture of St Louis style →Gallery Guns in the 1870s. Authentication is lacking.
- Green** Gunsmith Abram Green was listed in Chamber Street, London, in 1847 and at 198 Whitechapel Road, London E., in 1859–60.
- Green** Edwinson Charles Green of Gloucester and Cheltenham Spa, Gloucestershire, England, is perhaps best known for litigation with Webley over the origins of the stirrup-type locking system used on Webley revolvers. However, he also made sporting guns, and sold shotgun cartridges marked 'Cotswold', 'Fur & Feather' or 'Velox'. His name is associated with the →Webley-Green revolver, and also with a contentious claim to have invented the over/under shotgun.
- Green** Geo. Green, a gunmaker, or possibly wholesaler, supplied →Winchester rifles to the British authorities, 1941.
- Green** Samuel G. Green, a lieutenant-colonel in the U.S. Army, accepted .45 M1911A1 (Colt) pistols marked 'SGG' in 1939–40. See also "U.S. arms

inspectors' marks".

**Green** William Green. A London gunmaker originally of 22 Little Newport Street, Soho (1832–7), Green moved to 4 & 6 Leicester Square in 1838–55 and 138 New Bond Street in 1861–4. Green was granted British Patent 2714/60 of 1860 to protect a breech-loading rifle with a tip-up block, and also advertised himself as "Successor to Frederick →Prince and Sole Manufacturer of Prince's Breech Loading Rifle".

**Green** William Charles Green was listed in 1870 as a gunmaker, at 91 Wardour Street, London, and possibly also at 14 Coburn Road, London E, from 1883 to 1885. He may have been the son of William Green, above.

**Green Rival** ["The..."]. This mark was associated with shotgun cartridges loaded in Britain by the →New Explosives Co. Ltd within the period 1907–19.

**Green Seal** A shotgun cartridge made in Birmingham in the →Mullerite Cartridge Works. The name refers to the colour of the case-crimp disc. See also 'Grey Seal', 'Red Seal', 'Yellow Seal'.

**Greenbat.** A brand name associated with the products of →Greenwood & Batley of Leeds, including smokeless propellant.

**Greene** Inventor James Durrell Greene of Cambridge, Massachusetts, and Ann Arbor, Michigan, U.S.A, was granted U.S. Patents 11157 of 27th June 1854 and 11917 of 7th November 1854 to protect unsuccessful pivoting-barrel carbines. He soon progressed to a proprietary cartridge (U.S. Patent 18143 of Septemehr 1857) and an underhammer bolt-action rifle—U.S. Patent 18,634 of November 1857. Purchase of a hundred of these guns was authorised on 5th August 1857, but the costs of tooling could not be recovered from so small an order and Greene preferred to travel to Europe, where a 3000-gun order was obtained from Russia. Greene subsequently patented an improvement to his bolt-action mechanism (U.S. Patent 34422 of 18th February 1862), which was similar to the conversions supplied to Russia. He was also granted two patents after the end of the American Civil War: 88161 of 23rd March 1869, for a 'breechloading firearm', and 312201 of 10th February 1885 for a magazine gun.

**Greene carbine** Protected by U.S. Patent 11157 granted to James Durrell Greene on 27th June 1854, this was made in small quantities in 1855–7 by the →Massachusetts Arms Company. The breech was opened by pressing the front trigger, twisting the barrel to the right to disengage the locking lugs, sliding the barrel group forward and then finally to the right to expose the chamber. A hollow spike in the standing breech pierced the base of the combustible cartridge as the action was closed, allowing the flash from a percussion cap to reach the powder-charge. Substantial numbers were sold to Britain in the 1850s, but were not successful; many guns returned to the U.S.A. during the Civil War.

**Greene rifle** Nine hundred 1862-pattern underhammer guns were ordered by the Federal authorities in January 1863; made by →Milbury of Worcester, Massachusetts, they were still in store in March 1864 and do not appear to

have ever seen active service. Rotating the bolt downward revolved two lugs into seats behind the chamber, rifling was →Lancaster 'oval bore' pattern, and the self-contained combustible cartridge carried a projectile in the base. The loaded Greene rifle, therefore, had one projectile ahead of the charge and a second bullet acting as a gas seal.

**Greene Rifle Works;** Worcester, Massachusetts. Active in 1864–7, this made the breech-loading rifles patented by James Durell →Greene as well as the second or 'new pattern' →Warner carbines during the American Civil War.

**Greene** W.H. Greene, a government arms inspector working in 1902, accepted military small arms marked 'WHG'. See also "U.S. arms inspectors' marks".

**Greener** Charles Edward Greener, the son of William W. Greener (below), received British Patent 411520 on 8th June 1934 to protect a lever-operated camming system intended to improve the seal between the breech face and barrel of airguns. Used on the Greener Air Rifle of the 1930s, a similar system has since been adopted by →Mayer & Grammelspacher and →Weihrach.

**Greener** Harry Greener of St Mary's Square, Birmingham, a 'Gunmaker' and member of the powerful Greener dynasty, received British Patent 9644/03 of 1903 to protect the trigger mechanism of Lanes' →Musketeer spring-and-piston air rifle.

**Greener** William Greener was born in Newcastle upon Tyne in 1806, where his gunmaking business began in 1829; he moved to Birmingham in 1843, to trade there until his death in 1869. Representation was maintained in London by a succession of agents, beginning at 25 Gerrard Street, Soho, in 1846 and ending at 42 Eley Place, Holborn, in 1858. The last known agent was Daniel B. Harvey. Greener was a prolific inventor in several differing fields, amongst relevant protection being British Patent 2693/54 of 1854 (for revolvers, breech loaders and metal case cartridges) and 2349/64 of 1864 for a particular method of chambering barrels. He is also known for books such as *The Gun* (1835) and *Gunnery in 1858*.

**Greener** W.W. Greener & Company was formed on the death of the elder Greener in 1869, becoming 'W.W. Greener Ltd' in 1920, trading independently until acquired in 1965 by →Webley & Scott Ltd. Premises were listed at 61 & 62 Loveday Street, Birmingham, in 1864–9, but then moved to St Mary's Square and stayed there for nearly a hundred years. A London office was also maintained at 68 Haymarket.

¶ An advertisement in the ninth edition of *The Gun and Its Development* (1910) also lists branches at 19 Paragon Street, Hull; 63 & 65 Beaver Hall Hill, Montreal, Canada; and 44 Cortlandt Street, New York City. Later literature added 8 Avenue de l'Opéra in Paris; 176 Broadway in New York; and 38 Bolshaya Morskaya in St Petersburg. Trademarks included 'W.W.G.' in many forms, and an elephant motif.

¶ W.W. Greener entered a 12-bore Patent →Wedge-Fast breechloading shotgun in *The Field* trials of 1866. The company also offered →Lee-Enfield sporting and military rifles prior to 1914, but they were usually standard

BSA-made guns with Greener marks. The *No. 1 Sporting Rifles* in .303 or .375 were the most popular patterns, being offered with 'sporting' or plain finish. Long Lee-Enfield rifles, 'specially sighted and tested for Match shooting', were also available. Martini-action sporting, miniature and target rifles were made in large numbers, and a Martini-action shotgun remained available into the 1970s.

¶ Greener also handled shotgun cartridges displaying names such as 'Dead Shot', 'E K', "Greener's Dwarf", 'Paragon', 'Police Gun' and 'Sporting Life'. A few barrel-cocking air rifles were made in the 1930s, with the patented cam-lever breech seal, but sales were so slow that new guns were still being sold from stock in 1960.

¶ About 39,400 British .303 No. 3 →Enfield rifles were modified by Greener to 'Weedon Repair Standards' ('WRS') in the summer of 1939. A thousand .22 No. 2 →Lee-Enfield training rifles and about 17,000 →Lanchester submachine-guns were made in the early stages of the Second World War, the Lanchesters being assembled from parts made elsewhere (probably by the →Sterling Engineering Company). Greener also supplied the British authorities with about a thousand Martini-type rifles in 1940; with 6750 12-Bore Police Guns in 1942; with about 2300 'Pistols, Signal, No. 1 Mk III→' in 1940; and with a few hundred 'Horse Killers, .310, Mk 1'. It is assumed that many bore the code: 'M 94'. See also "British military manufacturers' marks".

**Greener** William W. Greener—"Old William"—retired in 1864, to be succeeded by his son William Wellington Greener (1834–1921), best remembered by books such as *Modern Breech Loaders* (1871) and *The Gun and Its Development* (nine editions published prior to 1910). The younger Greener, never noted for his reticence, claimed to have invented the air cane (which was patently untrue), though there is no doubt that he made valuable contributions to the refinement and manufacture of the double-barrel sporting gun.

**Greener Crossbolt** This was a method of locking the breech of a shotgun or double rifle, relying on a bar which, as the mechanism closed, was moved laterally by the top lever through a hole in the barrel lump extension or →Doll's head.

**Greener's Dwarf** ["The..."]. Found on shotgun ammunition sold by W.W. →Greener of Birmingham.

**Greenfield** The marks of H.S. Greenfield ['& Son'], an English country gunmaking business trading from 4 Upper Bridge Street and then 5 Dover Street in Canterbury, Kent, have been reported on sporting guns and ammunition. Shotgun cartridges marked "The County Cartridge" have been seen with Greenfield's marks.

**Greenleaf** William B. Greenleaf of Chicago, Illinois, U.S.A. , an employee of the →Markham Air Rifle Company, co-patentee with Ernest S. →Roe of BB Guns.

**Greenwood** Usually found as "The Greenwood"; found on shotgun cartridges made by →Greenwood & Batley.

**Greenwood & Batley;** Leeds, Yorkshire, and Farnham, Surrey. This engineering

business, founded in 1856 by Thomas Greenwood and John Batley, was originally renowned for its machine tools, including gun- and ammunition-making equipment. Products of the Albion Foundry in Leeds equipped the →Royal Small Arms Factory, Enfield, and also the →Birmingham Small Arms Company premises in Small Heath. Machine tools were supplied to, among others, the →London Small Arms Company; the Macon Armory planned (but never completed) by the government of the Confederate States of America; →Österreichische Waffenfabriks-Gesellschaft, Steyr; →Manufacture de l'Armes de l'État, Liège, Belgium; and Waffenfabrik Neuhausen (subsequently →SIG). However, perhaps regarding the success of the →Birmingham Small Arms Co. Ltd with envy, Greenwood & Batley diversified into the manufacture of guns and ammunition. Service-rifle and shotgun cartridges are known to have been made under headstamps such as 'G B' or brand names such as →Greenwood and →Skyrack. Cartridges have also been reported marked 'A.E.C. Grey Squirrel' and 'A.E.C. Pest Control', but the significance of the 'A.E.C.' abbreviation is not yet known. See also 'Ludwig Loewe & Co.' and 'Pratt & Whitney'.

**Greer** Arms inspector John E. Greer, a captain in the U.S. Army, was responsible for the acceptance of →Colt and other revolvers in 1876–83. They were marked 'JEG'. See also "U.S. arms inspectors' marks".

**Greifelt** G.H. Greifelt; Suhl in Thüringen, Germany. Listed in the 1900 edition of the *Deutsches Reichs-Adressbuch* as a gunmaker.

**Greifelt & Co.;** Suhl in Thüringen. Founded in 1885 by Friedrich Greifelt and Emil Schlegelmilch, this gunmaking business was being run by Alfred Greifelt and Oskar Jung when the First World War began. An advertisement dating from 1925 extols the virtues of the company's 'hunting guns of various types'. The ownership remained unchanged in 1940, when premises were being occupied in Suhl at Lauwetter 25. Products then included sporting rifles, shotguns, gun-parts and accessories, being made under the superintendence of Richard Jung. Trading ceased at the end of the Second World War.

**Grelgud** Henry Grelgud: see 'Gielgud'.

**Grelle** Charles de Grelle & Company, also listed as 'Degrelle' or 'DeGrelle', was listed in London directories in 1884–8, first at 19 Basinghall Street and thereafter at 130 London Wall. De Grelle is believed to have been a representative for the Belgian, or possibly French gun trade and was clearly working earlier than the dates given in Blanch's *Arms & Explosives* article; de Grelle entered the otherwise obscure single shot 'Loron' rifle in the British Army rifle trials of 1867–8.

**Grendel, Inc.** of Rockledge, Florida, U.S.A., made the innovative P 10 autoloading pistol in 9mm Short.

**Grenfell & Accles, Ltd** maintained an office briefly in London in 1892, at 7 Great St Helen's, EC. See 'James G. →Accles'.

**Greville** Harston C. Greville & Company seem to have been gunmakers' agents, operating briefly from 24 Cullum Street, London EC, in 1874 and 12 Queen

Victoria Street, London EC, in 1875.

- Grey** Gunmaker William Grey, trading from 41 (later 43) Old Bond Street from 1858 until 1872, had previously been a partner in →Moore & Grey.
- Grey Seal** Found on shotgun cartridges made by the →Mullerite Cartridge Works of Birmingham. The name refers to the colour of the case-crimp disc. See also 'Green Seal', 'Red Seal', 'Yellow Seal'.
- Greyer** W. Greyer of New York City, active in 1865–72, is known to have made or possibly sold spring-and-piston →Gallery Guns.
- GRG and GRH** Found on U.S. military firearms and accessories. See 'G.R. →Goring' and 'George R. →Harrington'.
- GRi** *beneath a crown, above a number*. A mark applied by an inspector working in the Indian small-arms factory in →Ishapore prior to the grant of independence in 1947. See also 'IS' and "British military inspectors' marks".
- Griessellich, Nebel & Company** is believed to have been a merchant and distributor, though sometimes listed as a member of the London gun trade. Trading was undertaken from 59 Basinghall Street in 1859–76, latterly as 'Henry Griessellich & Company'.
- Griffin & Howe, Inc.**, of New York City was one of the best-known of the custom gunmakers operating in the U.S.A. prior to the Second World War. The business was responsible for—among many others—sporting rifles built on Oberndorf made →Mauser actions.
- Griffith** J.H. Griffith, a civilian arms-inspector employee of the Federal Navy, accepted small arms marked 'JHG' during the American Civil War. See also "U.S. arms inspectors' marks".
- Griffiths** John A. Griffiths; Cincinnati, Ohio, U.S.A. An English-born gunmaker trading in the U.S.A. from 1834 until the end of the American Civil War in 1865, in partnership in the mid 1850s with Henry L. Siebert, Griffiths is best known for sporting guns (allegedly including a few breech-loaders), and his marks have also been found on →cap-lock revolvers made elsewhere.
- Griffiths** William Griffiths, a maker of 'Implements and Air Guns' according to his trade cards, occupied premises at 61 Weaman Street, Birmingham, Warwickshire, in 1846–64.
- Griffiths** William Griffiths; Manchester, Lancashire. The name of this English provincial gunmaker has been reported on sporting guns and →Eley Bros. shotgun cartridges. A business of the name began trading in 1854 at 17 Erskine Street, Stretford New Road, and had moved to 42 Hyde Street by 1857. It is assumed that there were two similarly named proprietors (father and son?) and that trading continued at least until the beginning of the First World War.
- Griffiths** William Griffiths, an 'Engineer' of Mossley House, Main Road, Bexley Heath, Kent, was the co-designer with Herbert →Woodgate of the →Griffiths & Woodgate auto-loading rifle protected by British Patents 21282/91 of 5th December 1891 and 16730/92 of 16th September 1892, granted for the basic action and improvements in the safety and trigger arrangements respectively.

**Griffiths & Woodgate rifle.** This auto-loader, patented by William →Griffiths and Herbert →Woodgate in 1891–2, was offered to the British Army in 1893 but rejected untried. Operated by recoil and locked by a turning bolt, the rifle was sufficiently meritorious to be included in Greener's *The Gun and Its Development*.

**Grimard** Edgar Grimard of Liège was a Belgian agent, responsible for the supply of an assortment of guns from Belgium to the British War Office immediately prior to the German invasion in 1940. These apparently included a batch of 7.92×57 →Vickers Guns on its way to Turkey.

**Grimes** S.J. Grimes; Stamford, Lincolnshire. The name of this English gunmaker has been reported on shotgun cartridges made by Frank →Dyke in the 1920s, or more probably assembled from German made components. These were sold under the brand name →Stamford Champion.

**Grimshaw** Thomas Grimshaw was a gunmaker listed in London at 48 Whiskin Street (1844–7); 6 Dorrington Street, Clerkenwell (1848–57); and 16 Penton Place, Pentonville Road (1858/9).

**Grimwade & Company** were listed as members of the London gun trade in 1880 only, trading from 54 Queen Victoria Street.

**Grip** A part of the butt (q.v.) between the →action and the →comb, also known as the →wrist.

**Grip** A separate hand-grip, behind the trigger or beneath the fore end, commonly fitted either to compensate for the use of a straight-line stock or to improve control in automatic fire.

**GRI and P** *with a crown and crossed pennants.* A military proof mark used in India during the reigns as Emperors of India of George V (1910–36) and George VI (1936–47). See also 'British military proof marks'.

**Grisel.** Peter Grisel: see 'Dakota Arms'.

**Griswold & Gunnison** of Griswoldville, Georgia, Confederate States of America, made about 3500 .36 six shot →Navy Colt-type revolvers in 1862–4. They had brass frames and round Dragoon-style barrels.

**Grivolat père et fils;** rue Villeboeuf 23, Saint Étienne, France. Listed in 1892 as a gunmaker.

**Groh** František Groh, born in the small Bohemian town of Kourim in January 1825, studied medicine in Prague and Vienna, graduating in 1846. Though best known as a leading and much-decorated Austrian physician, Groh was also renowned as a writer on military matters and as the inventor of breech-loading rifles. The best-known of the guns was a hinged side-locking action with an external hammer, patented in Germany in October 1871 (no. 17323).

**Groom** Gunmaker Richard Groom was first listed at 10 King Street, Commercial Road, London, in 1839. He subsequently moved to Cock Hill, Stepney (c. 1840–6), and then to 10 Wellington Passage, Stepney, by the time the last directory entry occurred in 1859.

**Grosfils** Marcel Grosfils of Brussels, Belgium, styled *Arquebusier du Roi* ('gunmaker to the king'), seems to have bought many of the firearms he

- handled in Liège, including shotguns made by Jean →Duchateau. Working in the 1930s.
- Gross:** often rendered as 'Groß', especially in German marks
- Gross** Bruno Gross & Co. of Suhl-Neuendorf, Germany, made parts for sporting guns and rifles in the 1930s.
- Gross** Henry Gross of Tiffin, Ohio, U.S.A., patented the Gross or Cosmopolitan carbine in August 1859 (U.S. no. 25259).
- Gross carbine** This quirky firearm has acquired several different names: 'Gross', →Cosmopolitan or →Union. The carbines lacked fore-ends and were operated by pulling the breech lever down, pivoting the breech-block face upward as the rear of the breech swung down. A separate breech cover, with an integral loading groove, dropped to allow a combustible cartridge to be pushed into the chamber. The gun was fired by a conventional cap lock. See also 'Gwyn & Campbell'.
- Groupement Industriel des Armements Terrestres:** see 'GIAT'.
- GR and P** *with a crown and crossed pennants.* A British military proof mark used during the reigns of George V (1910–36) and George VI (1936–52). See also 'British military proof marks'.
- Gr rG monogram.** Consisting of two jaw-to-jaw monograms, essentially circular, beneath a displayed eagle, this mark was used by Renato →Gamba from the early 1990s on sporting guns made by →Società Armi Bresciane. See also 'RG'.
- Grüber** A. Grüber; Suhl in Thüringen. Listed as a gunmaker, 1900.
- Grüber** Chr. Grüber & Sohn; Suhl in Thüringen, Germany. A gunmaking business operated in 1900 by Ad. Frohn.
- Grüber** Rob. Grüber of Suhl in Thüringen was a specialist gun stocker trading in Germany in 1939.
- Ruler** Joseph Ruler of Norwich, Connecticut, U.S.A., was co-grantee with August →Rebety of Patent no. 25259 of 27th December 1859, protecting the inclusion of safety notches on a revolver cylinder. This was exploited by the →Manhattan Fire Arms Company.
- Grünel:** a brand name associated with →Grünig & Elmiger.
- Grünig & Elmiger,** Jagd- & Sportwaffenfabrik & Mechanische Werkstätten; Malters, Switzerland. This long-established precision engineering business, 'Grünig & Elmiger AG' from 1976, made 'Grünel' brand sporting rifles and high-quality competition sights for many years. Grünig & Elmiger began to make the barrel inserts or →*Einsteckläufe* designed by Walter →Lienhard in 1962. Products are often marked with a concentric 'E within G' monogram, though some older examples appear to have borne 'MA within G' ('Grünig, Malters?').
- GS or G.S.** Marks associated with the Geweermakers School in Bandung, Java. It will be found on replacement parts (including barrels and grips) fitted to weapons issued to the Netherlands Indies army (→KNIL).
- GT** *often in the form of a monogram.* A trademark associated with →Gun Toys of Gardone Val Trompia, Italy.

**GT** Found on U.S. military firearms and accessories. See ‘George →Talcott’.

**GTA, GTB, GTR and GTW** Found on U.S. military firearms and accessories. See ‘G.T. →Allen’, ‘G.T. →Balch’, ‘Garland T. →Rowland’ and ‘George T. →Weaver’ respectively.

**Guardian** A name found on open-frame revolvers made in Belgium c. 1875–85 (some are marked ‘American Model 1878’). Perhaps the work of →Arendt of Liège, the larger guns chambered .380 cartridges; smaller ones generally accepted the .320 version, lacked the lanyard ring, and had folding triggers.

**Guardian** A small →Suicide Special revolver made by the →Bacon Manufacturing Company of Norwich, Connecticut, U.S.A.; late nineteenth century.

**Guardian** or ‘Guardian 27C’. A compact 6.35mm calibre automatic pistol made in the U.S.A. by →Michigan Armament.

**Guardia Rural.** A generic term for virtually any rural gendarmerie raised in Spanish-speaking countries, this has been specifically associated with →Colt revolvers acquired by the Cuban gendarmerie at the end of the nineteenth century.

**Guerreiro.** Alessandro (or ‘Alexander’) Guerreiro of Genoa was granted British Patent 628/63 of 5th March 1863—by way of agent William Clark—and U.S. Patent 47252 of 11th April 1865, each protecting a revolver with a cylinder which could be swung out to the right on a pivoting yoke. However, access to the chambers was possible only when a disc-like backplate had also been opened. Guerreiro revolvers were made in small numbers in Liège in the 1860s and 1870s, customarily chambering pinfire ammunition. Guns of this type may be marked ‘SYSTÈME ITALIEN’ on the frame. The British patent records note that an interest in the patent was granted in 1864 to ‘Cauvin, Pavese, Williamson & Weiland’.

**gug** A code-mark fund on telescope sights and other optical equipment made in 1941–4 by →Ungarnische Optische Werke AG of Budapest under contract to the German government.

**Guglielminotti:** see ‘Valle Susa di Guglielminotti’.

**Guichard;** 66 cours Fauriel, Saint Étienne, France. Listed in 1951 as a gunmaker.

**Guichard** J. Guichard; rue de Lyon 46, Saint Étienne, France. Listed in 1879 as a gunmaker.

**Guichard** M. Guichard et Cie; 20 rue Montferré, Saint Étienne, France. Listed in 1951 as a gunmaker.

**Guide Lamp Division** of General Motors; U.S.A. Makers of the →Liberator pistol.

**Guignand et Pailleux;** 76 rue Antoine Durafour, Saint Étienne, France. Listed in 1951 as a gunmaker.

**Guillot;** Saint Étienne, France. Listed in 1933 as a gunmaker. Still trading in 1951 from 11 place Villeboeuf.

**Guinard.** Albert Guinard; Paris. This entrepreneur, active prior to 1914, was the French agent for the British Gabbett Fairfax →Mars pistol in 1900–5. Some guns will be found with his name, address (“8 Avenue de l’Opera, Paris”), and French-language patent markings (‘→Brevete →S.G.D.G.’).

- Guiosson**; Rue Villeboeuf 22, Saint Étienne, France. Listed in 1892 as a gunmaker.
- Guiosson aîné**; rue de la Charité 9, Saint Étienne, France. Listed in 1879–92 as a gunmaker.
- Guisasola** A Spanish 6.35mm calibre Browning-type pocket pistol made in Eibar by →Guisasola Hermanos; six rounds, striker fired.
- Guisasola Hermanos**; Eibar, Guipuzcoa, Spain. These gunmakers were responsible for the 'Guisasola' 6.35mm pistol (above).
- guj** Associated with German military optical equipment made by Werner D. →Kuehn of Berlin-Steglitz during the Second World War.
- Gulikers**; Liège, Belgium. A gunmaker involved in the 1870s with le →Grand Syndicat.
- Gunn** George Peck Gunn of Herkimer, New York State, was the co-designer with Benjamin →Haviland of a spring-and-piston pistol with the air cylinder in the butt (U.S. Patent 126954 of 1872); and for the development, also with Haviland, of the →Pettengill system into what is now known as the →Gem. George Gunn also received protection for a magazine-fed derivative of the butt-cylinder airgun—U.S. Patent 337395 of 12th August 1885 and British Patent 3299/98 of 1886—and also for a felt-base airgun slug, U.S. Patent 290230 of 1883. The inventor reputedly joined the →Quackenbush organisation c. 1885, receiving U.S. Patent 370817 on 4th October 1887 and apparently assigning it to his masters.
- Günther** Franz Günther; Suhl in Thüringen, Germany. A gunsmith/gun stocker active in Suhl in 1939.
- Günther** Siegfried Günther; Suhl in Thüringen, Germany. A sales agency listed in the 1939 *Deutsches Reichs Adressbuch*.
- Gun Toys SpA** of Gardone Val Trompia, Brescia, Italy, was best known as a maker of barrel-cocking spring-and-piston air pistols and pistol-carbines, Gun Toys also made an extensive range of blank-firers. The products were distributed in Britain prior to 1982 by the →Sussex Armoury, and thereafter by the →Phoenix Arms Company and →Scalemead. The pistols have been sold in Britain as →Hotshot or →Panther, and also under the →IGI banner.
- Günzel**. A. Günzel; Suhl in Thüringen. A sales and promotional agency active in Germany in 1920–30.
- Günzler**. The gunmaking business of Otto Günzler of Suhl in Thüringen was active in Germany, apparently in the period between the world wars.
- guo** Found on German small-arms components made in the Hembrug/Zaandam factory of →Artillerie Inrichtingen ('NV Nederlandsche Maschinenfabrik') during the German occupation of the Netherlands in 1940–4.
- Gurney** Henry Gurney was listed as a gunmaker of 12a Gloucester Street, Commercial Road, East London, in 1854–5; and, as a partner in 'John & Henry Gurney', trading from 1 Red Lion Street, Holborn, London, in 1864–5.
- Gurtys** Engineer Stanislaw Gurtys of Poznan was granted German Patent 492136 of 1926 to protect a selective-fire modification of the →Parabellum; Poznan

(‘Posen’) was then still in German territory. The modifications consisted of a new sear bar, and an additional selector lever set in the trigger plate.

**Gustloff Werke;** Berlin, Weimar and a ‘regional office’ (*Zweigniederlassung*) in Suhl in Thüringen. Directories dating from 1940 listed two depots in Suhl—in Fritz-Sauckel-Strasse and Hohefeld Strasse—and a third in nearby Dietzhausen. A factory was to be found in Weimar, and another, the ‘Rennsteigwerk’, in Schmiedefeld am Rennstieg. Formerly →Berlin Suhler Werke (‘BSW’), this gunmaking business developed a self-loading pistol and a few →Barnitzke-type automatic rifles during the Second World War, but none of the designs was successful.

**Güttler** W. Güttler Pulverfabriken; Reichenstein, Germany. Maker of shotgun cartridges sold under the →Adler brandname.

**Guy** English gunmaker Charles Guy of Bell Street, Shaftesbury, Dorset (active 1841–59), marked self-cocking →pepperboxes.

**GW** On U.S. military firearms and accessories. See ‘George →Well’ and ‘George →Wright’.

**Gwalia** [‘The...’]. A brand name found on shotgun ammunition handled in Britain by →James of Newcastle Emlyn prior to 1939.

**GWC, GWH, GWM, GWP, GWR, GWS and GWW** Found on U.S. military firearms and accessories. See, respectively, ‘George W. →Chapin’; ‘George W. →Hagner’ or ‘George W. →Hamlin’; ‘George W. →Morse’; ‘George W. McKee’; ‘George W. →Patch’; ‘George W. →Rodgers’; ‘George W. →Schuman’ or ‘G.W. →Smith’; and ‘George W. →Wassner’.

**Gwyn & Campbell** These entrepreneurs simplified the action of the →Gross carbine (U.S. Patent 36709 of 21st October 1862), so that a grooved breech-block simply dropped at the front to expose the chamber. The gun resembled its predecessor, but the breech lever locked into the front of the catch on the underside of the butt and the back sight was simplified. The Federal government purchased 9342 Gross and Gwyn & Campbell carbines prior to 30th June 1866, but others were undoubtedly sold privately during the war.

**Gye & Moncrieff** Best known for a patented sporting gun with the bar for the locking bolt running forward from the standing breech (instead of being part of the barrel lump), this London gunmaking partnership traded from 60 St James’s Street in 1876–85 and then from 44 Dover Street until 1887.

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

**gyu** Found on small-arms components made in 1941–5 by Gebr. →Michera of Prague and Stara Tura/Slowakei, working under German supervision during the occupation of Czechoslovakia.

**GZ** Found on U.S. military firearms and accessories. See ‘George →Zauche’.