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Palm Pistol®

Patent Pending

Specification

An ergonomically novel self-defense firearm. Slim profile. Suitable for home use, concealed carry enthusiasts, collectors or backup gun. Ideal for seniors, disabled and others with manual dexterity limitations. Optional Picatinny rail. ATF classified as standard pistol.

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Introduction

The Palm Pistol® is an ergonomically novel self-defensive firearm that uses the thumb for striker/firing pin release instead of the index finger. It is both ambidextrous and bilaterally symmetrical about its longitudinal axis rendering it functionally independent of the users hand dominance or bilateral orientation. It has no iron sights thus rendering eye dominance and sight alignment immaterial. Unlike any other single action handgun, the Palm Pistol® has 13 safety features, including three independent safeties that must be activated by the shooter using three different fingers before the pistol can be fired. Therefore, the action of the Palm Pistol® is not comparable to any other single action handgun, and is safer than any other single action handgun.

Design Considerations

One of the two principal factors of inaccurate fire is lateral muzzle drift induced during trigger squeeze.[1] Use of the thumb for releasing the firing pin mitigates this problem. Also, the slim profile presents the ability to readily conceal the firearm without imprinting. There are no external moving parts which permit it to be fired from within a pocket or other clothing without the possibility of jamming on fabric.

The design incorporates a striker block, safety sear and a loaded chamber indicator. A Picatinny rail for attaching accessories such as a strike bezel, extra round carrier, light or the LaserLyte Subcompact V2 laser sight may also be incorporated as optional features. Additional safety features include a latch safety and handguard.

Two independently operable grip safeties are located dorsally and ventrically about the barrel on the forward face of the vertically oriented grip/receiver. These must be fully depressed in order to release the otherwise immobilized triggers. The triggers, in turn, are protected by spring-loaded covers which operate as manual safeties since the pistol cannot be fired unless one of the covers is lifted into the “up” position.” Also, the forward edge of the grip/receiver and depressed grip safeties provides a straight line reference plane perpendicular to the centerline of the bore, enabling proprioceptive determination of barrel elevation, further mitigating the need for iron sights.

An additional advantage of the design is its low bore axis. Recoil forces are directed rearward, coincident with the centerline of the forearm. This may reduce muzzle rise that occurs where the bore axis in traditionally configured handguns is above the centerline of the forearm. The design has dynamics similar to a rifle where the recoil force is directed rearward to the shoulder but in this instance, the palm is simply substituted for the shoulder. Furthermore, use of the thumb for striker/firing pin release may reduce the likelihood of an accidental discharge due to startling and body alarm reaction (BAR) induced during a high stress encounter with an armed opponent.

Applications

The design is suited for home use, concealed carry enthusiasts, collectors and as a backup gun. It is ideal for seniors, disabled or others who may have dexterity limitations or difficulty sighting and controlling a traditional revolver or semi-automatic pistol. For example, it may serve as an adaptive defensive firearm for people with phalangeal amputations or fusions. Approximately 30,000 non-work related amputations involving one or more fingers occur annually within the United States.[2]

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[1] *The Basics of Pistol Shooting,* Page 60, First Ed., January 1991, National Rifle Association, Fairfax, VA.
[2] *Annals of Emergency Medicine*, Volume 45, Issue 6, June 2005, pages 630-635.

Arthritis is the most common cause of disability in the United States. The Center for Disease Control reports that 46 million Americans (22%) suffer from arthritis, limiting the activity of 19 million adults (9% of all adults). This will increase to 67 million adults (25%) and limiting the activity of 25 million (37%) by the year 2030.[3]

A 1998 study suggested that 7-10% of the adult population is left handed and this occurs more frequently in males.[4] The vast majority of firearms are designed for right-handed shooters, with the grip, magazine release, and/or safety mechanisms set up for manipulation by the right hand, and fired cartridge cases ejected to the right. A left-handed shooter must either purchase a left-handed firearm (which are manufactured in smaller numbers and are generally more expensive and/or harder to obtain), shoot a right-handed gun left-handed (which presents certain difficulties, such as the controls being improperly located for them or hot shell cases being ejected towards their body, especially their eyes), or learn to shoot right-handed (which may pose additional problems, primarily that of ocular dominance). Some guns feature ambidextrous or right/left-handed reversible operating parts but most do not.[5] These problems are all mitigated by the Palm Pistol® since it is ambidextrous.

The design may also have government application for employees who require personal protection yet do not traditionally train with or carry firearms. This might include civilian administrative staff working on government installations in high risk domestic or foreign locations (embassy personnel who are at risk of kidnapping), employees who might be intimidated by revolvers or semi-automatic pistols, or clandestine personnel. It may also serve as a backup gun for military, police, commanders located in the confined quarters of a tank, airline pilots or stewards or security guards. According to FBI Uniform Crime Report statistics, 12% of officer victims killed in the line of duty are shot with their own handgun.[6] This has elevated firearm retention as a major training issue. The Palm Pistol® is well suited for officer weak side use for repelling disarming attempts. Furthermore, certain clandestine operations require the user of a firearm to "divorce" themselves from its use. Carried in the pocket with no holster, this separation is facilitated.

Medical indications for use include but are not limited to arthritis; peripheral neuropathy caused by chemotherapy, infection, traumatic injury or diabetes; phalangeal amputations/fusions/fractures; distal muscular dystrophy; ankylosing spondylitis; multiple sclerosis; cerebral palsy; carpal tunnel syndrome, Raynaud's syndrome; ganglion cysts; side effects of certain medications; and inclusion body myositis. Gripping the device requires an intact thumb and two adjacent fingers with proximal and intermediate phalanges. It can also be fired without a thumb by using the index finger for depressing the trigger and an upward cocking of the wrist.

Marketing

The Federal Interagency Forum on Aging estimates the number of adults aged 65 and older will reach 71.5 million by the year 2030, twice the number in 2000 and representing approximately 20% of the total US population[7] and a significant potential market for the Palm Pistol®.

The majority of states now permit concealed carry of firearms for personal defense and this will present a steady civilian market for this type of highly concealable gun. The recent DC v Heller decision may produce an increased demand for concealed carry firearms. The success of the Taser C2 and increased manufacturers marketing campaigns in mainstream publications such as PC Magazine further suggests

[3] CDC Center for Chronic Disease Prevention and Health Promotion. See http://www.cdc.gov/arthritis/data_statistics/index.htm.
[4] Raymond, M.; Pontier, D.; Dufour, A.; and Pape, M. (1996). *Frequency-Dependent Maintenance of Left-Handedness in Humans*, Proceedings of the Royal Society of London, B, 263, 1627-1633.
[5] See http://en.wikipedia.org/wiki/Left-handed.
[6] FBI Uniform Crime Reports. See http://www.fbi.gov/ucr/killed/2007/index.html.
[7] See http://www.agingstats.gov/agingstatsdotnet/Main_Site/Data/2008_Documents/tables/Tables.aspx.

widespread potential interest in this product type. Also, the increasing interest in cane fighting by senior citizens for both exercise and self-defense, suggests a large potential market.

The National Shooting Sports Foundation (www.nssf.org) is the trade association for the shooting, hunting and firearms industry. Monthly National Instant Criminal Background Check System (NICS) figures are tracked by the organization as a surrogate for national firearms sales estimates. The chart shown in the Appendix published in their December 8, 2008 Bullet Points Online News Service indicated that background checks on the sale of firearms reached record levels during the month of November, pointing to a spike in sales for the month. A total of 1,529,635 checks, the highest monthly total ever, were reported for the month, up from 1,079,923 in November 2007.

The US DOJ Bureau of Justice Statistics reported 8,612,000 NICS checks (all firearms) for 2006 with a 1.6% denial rate, resulting in 8,477,000 approvals.[8] During the same year, the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) reported 1,403,329 handguns were manufactured.[9] Thus, new handgun sales can be estimated to represent 17% of all guns transferred during a given year.

If only considering those 9% of adults suffering with activity-limiting arthritis, and disregarding multiple sales, the estimated number of prospects for the Palm Pistol® based on ATF 2006 manufacturing figures, is 9% of handguns manufactured and retained domestically or 110,739. Successful penetration of this market by only 10% suggests a first year estimate of 11,074 units or $3,332,161 in gross retail sales at MSRP of $300.

Sales will be through federally licensed firearms dealers; direct to consumers by Constitution Arms, a licensed FFL and NJ Retail Firearms Dealer, through the company's own website at www.palmpistol.com; various online auction websites; and wholesale distributors. An attempt will be made to produce the product entirely with US made components. The ATF has classified the design as a standard "pistol" and is thus not subject to NFA regulations. This will permit the gun to be sold like any other traditional handgun without the additional tax and registration requirements of designs that otherwise would have been classified as "AOW" (Any Other Weapon).

For further Information, contact Matthew Carmel, President, Constitution Arms™, (973) 378-8011 mcarmel@constitutionarms.com.

[8] *Background Checks for Firearms Transfers, 2007,* US DOJ Bureau of Justice Statistics, http://www.ojp.usdoj.gov/bjs/pub/html/bcft/2007/table/bcft07st01.htm.
[9] *2006 Annual Firearms Manufacturing and Export Report.* See http://www.atf.treas.gov/firearms/stats/afmer/afmer2006.pdf.

Appendix

Palm Pistol® Advantage/Disadvantage Matrix

Parameter	Advantage	Disadvantage
Single shot	Clearly defines firearm as self-defensive and less likely to be banned outright by anti-gun states. Attacker unable to use against victim after first shot.	Victim only has one opportunity to stop attacker before reloading.
Use of thumb to fire	Reduces muzzle drift. Less likelihood of accidental discharge from body alarm reaction. Thumb is stronger than index finger. Adaptive aid for handicapped such as users with phalangeal amputations or fusions, arthritis or others with limited manual dexterity.	Unconventional mode of operation requires familiarization.
Laser sight	Eliminates need for sight alignment. Attacker may cease pressing his assault when observing his body targeted by laser.	Not visible in bright daylight. Requires battery maintenance. Increases weight of firearm and makes it less concealable.
Chambering	.38 special has reasonable stopping power if using a hollow point or EFMJ round. Lower recoil, report, muzzle flash, weight and cost of larger calibers.	Less stopping power than larger caliber conventional rounds.
Ambidexterity and bilateral symmetry	May be fired effectively without regard to hand or eye dominance.	None.
No external moving parts	Can be fired from concealment without hanging up on clothing.	No visual clue that firearm is operable.
Latch breech access	Easy access to chamber.	None.
Latch safety	Prevents striker release if barrel is not fully closed and secured to receiver.	Any mechanical safety may be subject to physical failure.
Grip safeties	Prevents unintentional discharges.	Any mechanical safety may be subject to physical failure.
Cocked striker indicator	Alerts user to cocked striker condition by both sight and feel.	None.
Loaded chamber indicator	Alerts user to loaded chamber condition by both sight and feel.	None.

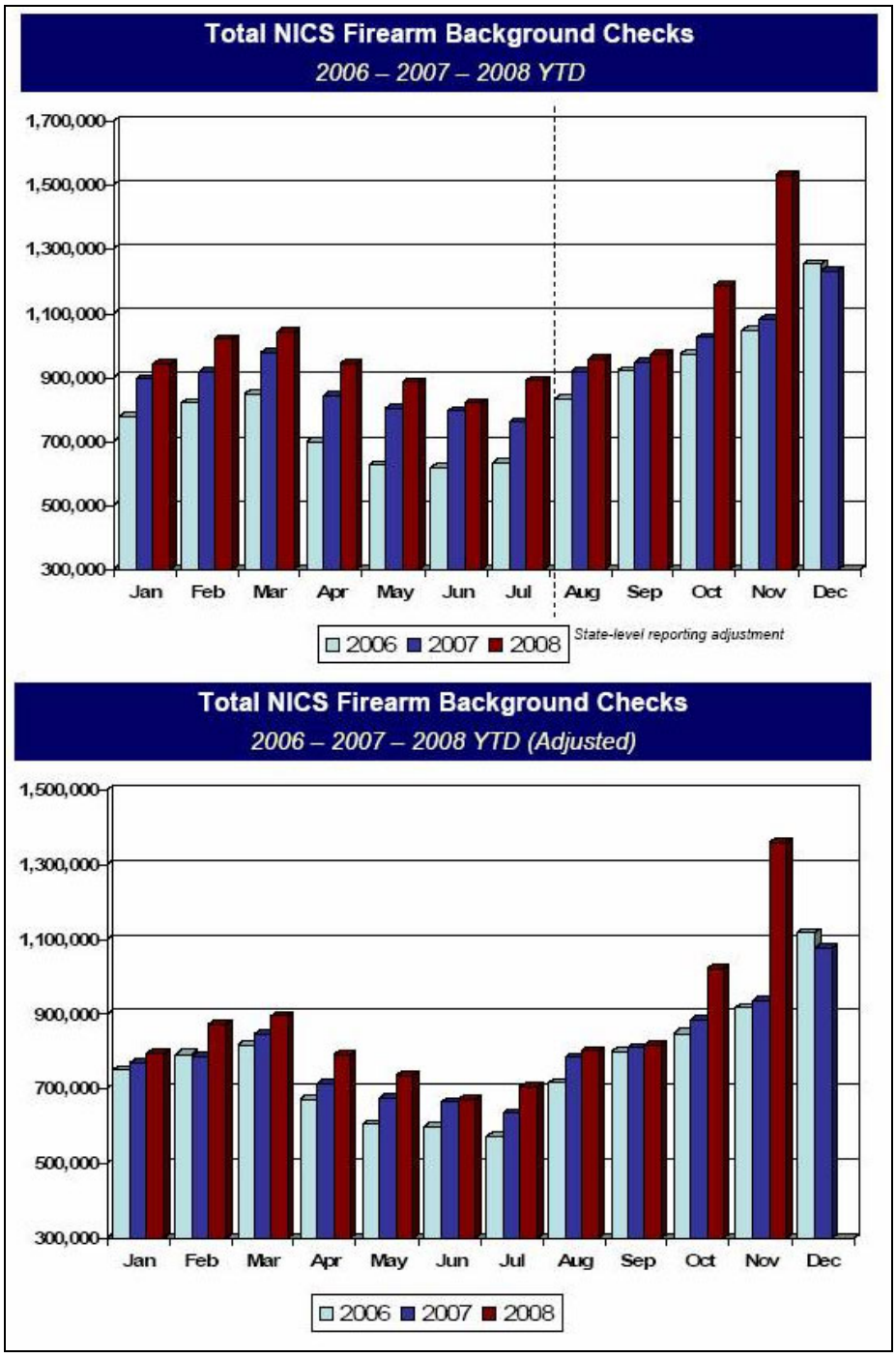
Law Enforcement Officers Feloniously Killed with Own Weapons

Type of Victim Officer's Weapon,1998–2007[1]

Weapon	*Caliber*	*Total*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*
No. of victim officers, all weapons		549	61	42	51	70	56	52	57	55	48	57
No. of victim officers all handguns		368	40	25	33	46	38	34	36	42	36	38
No. of victim officers killed with own weapons	Total	46	6	5	1	3	4	11	7	6	1	2
Handgun	Total	44	6	5	1	3	4	10	6	6	1	2
	357	3	1	0	0	0	0	1	1	0	0	0
	357 mag.	1	0	0	0	0	0	0	1	0	0	0
	.38	1	0	1	0	0	0	0	0	0	0	0
	.40	22	1	1	1	3	3	5	1	5	1	1
	.45	8	2	0	0	0	1	3	1	1	0	0
	9 mm	8	2	2	0	0	0	1	2	0	0	1
	10 mm	1	0	1	0	0	0	0	0	0	0	0
Rifle	Total	1	0	0	0	0	0	0	1	0	0	0
	.22	1	0	0	0	0	0	0	1	0	0	0
Shotgun	Total	0	0	0	0	0	0	0	0	0	0	0
Blunt instrument (baton)	Total	1	0	0	0	0	0	1	0	0	0	0

[1]FBI Uniform Crime Reports. See http://www.fbi.gov/ucr/killed/2007/index.html. Data only reported for jurisdictions greater than 100,000 resident population. UCR reporting is voluntary and not comprehensive nationwide. Does not include private security guards or correctional facility officers.

NSSF Firearms Background Check Data
December 2008



Note: Federal law requires FBI background checks on individuals purchasing firearms from federally licensed retailers. The NICS increase coincides with an increase in federal excise taxes reported by firearms and ammunition manufacturers, another key economic indicator for the firearms industry. Trends such as excise taxes and NICS data are strong indicators of sales patterns; however, they are not actual sales. There is no data source that captures firearms sales by month.