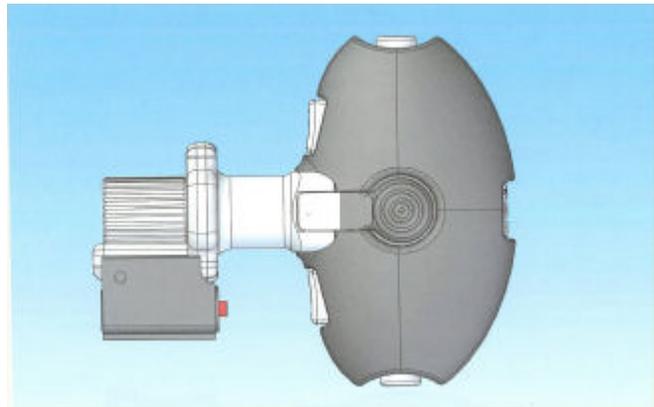




## Palm Pistol: Defense for Elderly and Disabled Shooters?

Carolyn Boyles

In early December 2008, Matt Carmel of Maplewood, New Jersey made history by having his invention, the Palm Pistol, considered by the Food and Drug Administration (FDA) as a Class 1 Medical Device and his company, Constitution Arms, designated as a Medical Device Establishment. [1][2] A week later, after a myriad of worldwide publicity claiming the invention had been approved, the FDA rescinded the device's registration, claiming the original action was done "in error." [3]

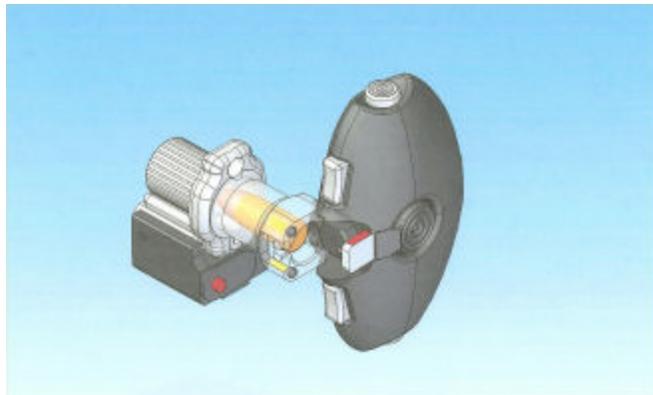


In a statement to *medGadget* Carmel said:

"Based upon agency information, correspondence, and verbal instructions, we were led to believe the Palm Pistol was classified as a 'device,' were given specific listing instructions, assigned Product Code ILT corresponding with 'Recreational Adapter' and identification of the device as a 'Daily Activity Assist Device' in accordance with 21 CFR 890.5050, and accordingly informed we had authority to begin marketing it as such a 'device.' At no time did we claim the device was 'approved' by the FDA, as erroneously reported in the press. We did make every effort to correct this when extended the courtesy of an inquiry." [4]

Carmel told me during a phone interview that he had asked an FDA representative if he could begin marketing his device as a medical device compliant with FDA regulations after he had received the notice of the listing instructions, the product code, and identification of the device and he was verbally assured he could do so. [5]

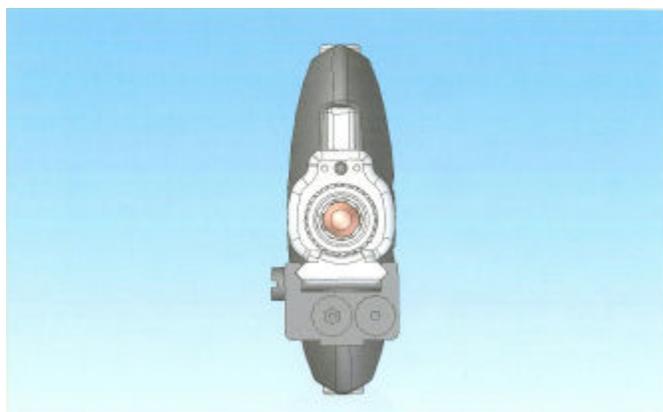
FoxNews.com and msnbc.com both reported that an FDA spokeswoman named Siobhan DeLancey said Matt Carmel "apparently got some bad advice from an FDA representative." Both articles also reported that "and maybe he [Matt Carmel] should have paid more attention to the fine print on the registration notice. It said: 'Registering...does not, in any way, constitute FDA approval of your facility or your devices.'" [6][7] It is unclear in the articles if this is a continuation of the opinions of FDA spokeswoman DeLancey or if it is the opinion of the Associated Press' author, Ricardo Alonso-Zaldivar.



The FDA is required under federal law to classify medical devices into one of three classes: Class 1, Class 2, or Class 3. Class 1 devices are general controls. Class 1 medical devices must have sufficient information "showing that the general controls of the act are sufficient to ensure safety and effectiveness." [8] Examples of Class 1 medical devices are uric acid test systems, blood bank supplies, dental mercury, urological clamps for males, intraocular lens guides, mechanical wheelchairs, and positron cameras. [9]

The intended target market for the Palm Pistol is the elderly, the disabled, and individuals with limited strength or manual dexterity. [10] Carmel's hope was for individuals in the target market to be able to request a prescription for the product from their physicians and be partially reimbursed by Medicare or private insurance. [11]

Matt Carmel is an NRA certified firearms instructor in New Jersey and learned that many of his clients had little experience shooting a gun. He observed that they were unable to keep the muzzle of their pistols steady, causing their shots to be inaccurate. He also found that beginning shooters have a tendency to shake because of a fear of recoil, fear of noise, and general apprehension in handling firearms. [12]



Carmel's logic in attempting to have the product approved as a medical device by the FDA was twofold. First, he wanted to get financial help from Medicare or private insurance for individuals who needed the gun the most. Second, he saw a similarity in the purpose of Class 1 medical devices and the Palm Pistol. Carmel saw the purpose of health care as saving lives. [13] His Palm Pistol is intended as a weapon for defense only, thus potentially saving the lives of the elderly, the disabled, [or even an able-bodied person who chooses to use it]. [14] Adam Brodsky of the *New York Post* quoted Carmel as saying "Saving lives is what 'health care' is all about." [15]

The road to getting the Palm Pistol to be considered by the FDA began with the Bureau of Alcohol, Tobacco, Firearms and Explosives (BATFE). First, it had to be classified by the BATFE as a pistol. It faced the risk of falling into the Any Other Weapon (AOW) classification under federal law. [16][17]

Readers familiar with The National Firearms Act (NFA) will recognize the requirements for the Any Other Weapon classification, the definition of which is reproduced below:

Any weapon or device capable of being concealed on the person from which a shot can be discharged through the energy of an explosive, a pistol or revolver having a barrel with a smooth bore designed or redesigned to fire a fixed shotgun shell, weapons with combination shotgun and rifle barrels 12 inches or more, less than 18 inches in length, from which only a single discharge can be made from either barrel without manual reloading, and shall include any such weapon which may be readily restored to fire. Such term shall not include a pistol or a revolver having a rifled bore, or rifled bores, or weapons designed, made, or intended to be fired from the shoulder and not capable of firing fixed ammunition. [18]

Once Carmel had achieved approval from the BATFE for his product to be categorized as a pistol, he was then able to approach the FDA to seek possible approval as a medical device. He has applied for a provisional patent through the U.S. Patent and Trademark Office, which he received during the Fall of 2008. [19]

Despite its name, the Palm Pistol hardly resembles a pistol in the traditional sense. It has a thumb trigger instead of an index finger-activated trigger. Figure 1 shows the thumb trigger (the bull's eye in the center of the grip). Figure 2 shows the other side of the gun without the thumb trigger.

For purposes of this article, I will use the term pistol interchangeably with handgun. Pistols come in two varieties: semi-automatics and revolvers. A purist may point out a third type exists, the machine pistol. [20] I will leave you to your own research, should you desire additional information on machine pistols.

Both types of pistols require the use of one or both hands to operate. A person must be able to physically load ammunition, hold the weapon, aim the weapon, engage/disengage a safety where applicable, and pull the trigger. In the case of a semi-automatic, a person must also be able to insert the clip into the grip of the pistol, and pull the slide back to load ammunition into the chamber. With a revolver, a person must have sufficient dexterity to load individual bullets into chambers.

Some pistols are small enough to be concealable on a person's body or within a purse whereas others are too large for this purpose. A weapon appropriate for a target market of the elderly, disabled, or those with limited dexterity would more than likely fall into the concealable category due to size and weight.

The Palm Pistol has a lengthy and distinguished ancestry with the origin of concealed carry weapons dating back several hundred years. Both American and European designs exist. The most famous American palm pistols are the Turbiaux Le Protector, the Ames Protector, the Minneapolis Firearms Palm Pistol and the Chicago Palm Pistol. [21] During the Twentieth Century, U.S. patents were issued for other variations of palm pistols in 1910, 1922, 1936, 1978, 1979, and 1981. [22]

As an aside, when I looked at the specifications for the Palm Pistol calling for a rifled barrel, I became curious if the early palm pistols had rifled or smooth bores. I couldn't find this information in my reference books, so I went out to various gun forums on the Internet and posted the question. Mike Catinella responded his Chicago Palm Pistol has a slightly rifled barrel. Wolfgang Dell of Germany says his 10 shot Le Protector has a rifled barrel. He assumes the 7 shot version would also have a rifled barrel. However, his Minneapolis Palm Pistol has no rifling. His Chicago Palm Pistol is rifled, as is Mr. Catinella's. Ray Vitkus says his Le Protector has a rifled bore. Don Thomson contacted me and suggested several resources for the information. Finally, someone suggested I

contact a C.W. Slagle who buys and sells antiques. Mr. Slagle has several examples of the antique palm pistols and informed me he could find no consistency in the bore construction of the various models of palm pistols. [23]

As stated above, the target market for the Palm Pistol as envisioned by Carmel is the elderly, the disabled, and those with limited strength or dexterity. [24] Those with limited strength or dexterity would typically be thought of as elderly or disabled.

I'm going to go out on a limb here and suggest that non-disabled women who aren't elderly are also in Carmel's target market because they are "disabled" when it comes to physical self-defense compared to men. Carmel has mentioned the weapon is also appropriate for able-bodied individuals, but does not stress this on his website, [www.PalmPistol.com](http://www.PalmPistol.com).

No doubt exists that women are physically weaker than men, with a few exceptions, of course. Women are typically smaller and weigh less. More specifically, the following biological facts exhibit why women are less able to defend themselves or to escape a dangerous situation than men:

1. The cardiac output is about 10% less in a woman than in a man of the same body size.
2. The woman has about 20% less blood volume for the same body weight.
3. For the same amount of blood, women have 10% less hemoglobin.
4. Women have a wider pelvis which decreases the mechanical efficiency because it increases the angle of the thigh bone to bring the knees closer together.
5. The average female possesses about 10% more body fat, which increases the load that needs to be carried.
6. The woman has a 10% less vital capacity than a man. (Vital capacity is the maximum amount of air that can be exhaled after a maximum inhalation.[25])
7. The woman has a shorter Achilles tendon than a man and this is responsible for the elastic recoil of running.
8. The menstrual cycle imposes physiological and psychological stresses on a woman's body and mind which may decrease athletic performance in some athletes.[26]

Cindy Lighthouse, a National Firearms Association Counselor in Canada, has this to say:

The police cannot provide a guard for each threatened woman. There aren't enough police officers to do that. So, unless a woman can protect herself, there is never going to be anyone to protect her. She is limited by having only her hands to protect herself when she is being brutally attacked by a violent criminal who is often much larger and stronger than she is and who may be using a weapon while attacking her! [27]

Marie de Vichy-Chamrond, the Marquise du Deffand, wrote "Women are never stronger than when they arm themselves with their weakness." [28] I would have left off the last three words.

Matt Carmel describes his invention as "an ergonomically innovative single shot double action *only defensive* firearm...that may be fired using either hand without regard to orientation of the stock. Suited for home defense, concealed carry or as a backup gun. It is also ideal for seniors, disabled, and others who may have limited strength or manual dexterity [*italics mine*]." [29] Carmel's version of a palm pistol may be the first whose purpose is defensive-only. As such, it is a single shot pistol, unlike its predecessors.

The Palm Pistol is designed as a single shot pistol because Carmel feared many states would ban it because of its capability to be used to commit crimes if it were not single shot. Production costs for a single shot weapon are also cheaper. [30]

Peter, of the [Bayou Renaissance Man](#) blog, took a survey among his readers to find out what characteristics should be present in a handgun for self-defense purposes. These were the restrictions suggested by his respondents:

- The handgun could not be so large and/or heavy that it could not be easily concealed, even beneath light summer clothing.
- It had to be small and compact enough to carry in a pocket or handbag, as well as in a holster, because not everyone wore clothing suitable to conceal a holster.
- Because cost is an issue for many people, it couldn't be too expensive.
- It had to be in a caliber sufficiently powerful for defensive use.
- It had to be of quality manufacture and very reliable. Since its owners might have to stake their lives, and the lives of their loved ones, on this weapon, it couldn't be something 'cheap and nasty' that might malfunction at the critical moment.
- It had to be useful in the home, and in the car, and on the street. Many respondents said frankly they couldn't afford different guns for different purposes, and so wanted a 'one-size-fits-all' approach. [31]

He also raises several points regarding using a handgun for self-defense:

- A handgun is inherently more difficult to shoot well than a long gun. The sight radius is much shorter, there's no shoulder support for aiming and to absorb recoil, and a great deal more practice is required to obtain and maintain competence with a handgun.
- Handgun skill is very perishable. It takes more practice to maintain it than skill with a long gun.
- Smaller handguns are more difficult to shoot well than larger handguns.
- Safe handling of a handgun is inherently more difficult than a long gun.[32]

The Bayou Renaissance Man makes a final point regarding handguns: "It's a defensive weapon, not a target-shooting or hunting device. It has to fulfill a basic purpose: to inflict enough damage on an attacker to make him stop his unlawful assault on you." [33]

In short, a gun for self-defense has a deterrent effect on a criminal. According to LearnAboutGuns.com, "a criminal out to commit a crime is looking for an easy target, not one that will fight back." [34] The Palm Pistol's deterrent effect on an attacker is unknown because its shape is different from any other handgun on the market. Will an attacker recognize it as a gun? Until the Palm Pistol is used in a variety of self-defense situations and the attacker's reactions are noted, this will remain an unknown quantity.

Another part of the deterrent effect of a handgun is its stopping power, which depends on the ammunition used. How does the Palm Pistol stack up against its predecessors relative to caliber? The Palm Pistol was originally designed to be 9mm, but Matt Carmel told me he may be chambering it for .38 SPL instead (Figure 3). [35] The Turbiaux and the Ames pistol fired either 6mm or 8mm. The Minneapolis Palm Pistol and the Chicago Palm Pistol fired .32 caliber extra short. [36]



Most pistols require four intact fingers and a thumb on one hand to be used properly. A person can be missing the topmost joint of the index and middle fingers and still grip the Palm Pistol. Firing the Palm Pistol requires the thumb, so a person with a thumb but missing the topmost joints of the index and middle fingers, the entire fourth and small fingers can still operate the weapon. [37]

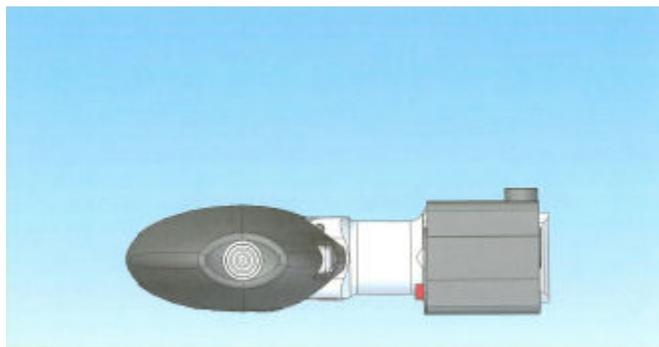
Another unique aspect about the weapon is its ambidextrousness and bilaterally symmetry (Figures 4 and 5). Hand dominance, bilateral orientation, and eye dominance are of no consequence with the Palm Pistol. [38]

A danger which exists with a normal pistol being used as a concealed weapon is the risk of an external moving part getting hung on clothing. This danger is absent with the Palm Pistol because it has no external moving parts. It can be fired from within a pocket or purse. [39]

While I'm discussing using the Palm Pistol as a concealed weapon, I want to address the concern that someone can sneak a Palm Pistol onto an airplane or into a federal or state office building equipped with an x-ray machine because its unique shape won't betray it as a weapon. Matt Carmel has developed what he calls an "Embedded Firearm Radiopaque Security Identification Tag" which can be manufactured into the Palm Pistol or any other firearm. This device causes the word "GUN" to glow through an x-ray machine. The tag can be manufactured in English or any other language desired. [40]

It is likely that the target market for the Palm Pistol will be less likely to practice using a pistol because of the difficulty of getting to a shooting range, the expense of ammunition, transportation or both, and health and schedules interfering with available shooting time. Less practice means less accuracy upon shooting.

Matt Carmel says lateral muzzle drift during trigger squeeze with a conventional pistol is to blame for inaccurate fire. He claims use of a thumb-activated firing pin instead of an index finger-activated firing pin will increase shooting accuracy. He also claims the low bore axis of the Palm Pistol may reduce muzzle rise, resulting in more accurate shooting. Finally, he says that the likelihood of accidental discharge from a startling and body alarm reaction may be reduced using the Palm Pistol compared with



a traditional pistol. [41]

To prevent accidental discharge, the Palm Pistol comes with three safety features, two independently operable grip safeties must be fully depressed to release the otherwise immobile triggers (Figure 6), a loaded chamber indicator, and a 3 digit combination disc cylinder lock which secures release of the triggers and locks the breech during firing (Figures 7 and 8).[42]

To assist the shooter in properly aiming the gun, a laser sight will be available as an option (Figure 9). The sight will be mounted on Picatinny rails where it will slide onto the lower section of the barrel.

A laser sight is not included for two reasons. First, having the laser built in will increase the cost of manufacture. Second, under Carmel's original plan to obtain approval from the FDA for the Palm Pistol as Durable Medical Equipment, having a laser standard on the device would have made it a radiological device under FDA rules.[43]

As of this writing, Matt Carmel is in the process of taking \$25 deposits on the final product. His next step is to create a working prototype. Once the working prototype stage is finished, then he can begin manufacture of the final product. As with any product being brought to market, financing is a key issue.

The Palm Pistol was a news curiosity for about a month. When and if the Palm Pistol will become available for purchase is unknown. Unless it goes into production, the only way it will be remembered is as another entry in a patent search for similar type weapons, assuming the final patent is granted.

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