A firearm Magazine loading device designed to load bullets and cartridges into a magazine clip. The loader housing is designed to fit over the open end of the magazine. The top front of the loader includes a funneled bullet or cartridge loading port or aperture to facilitate the insertion of a bullet or cartridge into the housing loader primer end first. Once an operator inserts the bullets or cartridges into the loader housing through the funneled loading port, the housing incorporates a lever, handle or knob located at its rear, which, when squeezed or activated, forces or loads bullets or cartridges into the magazine.
FIG. 5

HAMMER
LOADING FUNNEL
LOADER HOUSING
LOADING LEVER
MAGAZINE
MAGAZINE LOADING DEVICE FOR LOADING BULLETS OR CARTRIDGES INTO A MAGAZINE

FIELD OF THE INVENTION

[0001] The invention relates to the loading of bullets/cartridges into a firearm magazine. The methodology is unique as it incorporates a funnel port to facilitate the loading of cartridges into the loading device vs. the conventional manual loading method. Once a cartridge is introduced into the loader, it is plunged into the magazine via a lever, handle or knob incorporated on the loader which is squeezed to activated the device, pushing cartridge into the open end of the magazine.

SUMMARY OF PRESENT INVENTION

[0002] 1. Background of the Invention
[0003] Magazines of handguns or pistols incorporate either a single column of rounds, for smaller pistols or a larger column of rounds for larger pistols which include two staggered columns which converge to a single column at the open end of the magazine. Magazines expose a single, top most, round (bullet or cartridge) between both lip walls.
[0004] Firearm Magazines have an internal spring, which urges a follower, blank piece of metal towards the open-end side. The follower urges the cartridges as a group up against the lips of the magazine. The function of the lips at the top of the magazine is to stop the cartridges and prevent them from being expelled from the magazine. When the Magazine is loaded with cartridges and chambered into the firearm receiver, the firearm’s chambering mechanism then picks up the cartridges individually and transports them to the firearm’s firing chamber where they can be fired by the operator.
[0005] The Magazines are usually manufactured from an aluminum alloy, steel or plastic. When loading cartridges into the magazine, the cartridges are staggered in a column fashion. In higher capacity magazines, as those associated with assault rifles, such as AR15/M16, AK47/74 Kalashnikov and other similar rifles, there may be double-stacked columns. When loading cartridges into the Magazine such as those typically utilized in an AR15/M16, AK47/74 Kalashnikov and other similar rifles utilizing a 30-round capacity magazine, the user-operator will need to exert additional pressure in loading each cartridge into the Magazine due to the added pressure placed on the spring inside the magazine.
[0006] When manually loading a magazine under stressful conditions such as in the case of combat situations encountered by our military and police, the loading process can become slow and awkward, placing lives at risk. In addition, the sharp and jagged edges on the lips of the magazine often cause painful thumb cuts and injuries to the operator when loading cartridges into magazines.
[0007] What is needed is a user-friendly method to significantly reduce the time necessary to load a firearm magazine compared to the conventional method of loading it manually. It should eliminate pain and injury to the fingers and thumb of the loader, prolong magazine life, and reduce to a minimum wear on the magazine’s feed lips.
[0008] The invention at hand describes a magazine loading device which entirely eliminates thumb cuts and injuries to the operator as the device operator’s thumbs do not come in contact with the top open end of the magazine and magazine lips. The operator instead places invented loader securely over the top of the magazine and loads the magazine by introducing the cartridge into the funneled loading port of the magazine loader, the invention. The further need of the operator to push the cartridges downward past the lips and into the magazine is a thrusting motion is also eliminated when utilizing the invented device.

[0009] 2. Description of the Related Art
[0010] Lawrence R. Williams, U.S. Pat. No. 6,178,683B1 represents a patented Magazine Reloader for cartridges to magazines of the type commonly used with handguns and some rifles and automatic weapons. The Williams’ 683 Patent describes a loading device that follows a completely distinct paradigm from the device at hand.
[0011] This re-loader cartridge devise is comprised of two individual parts. One part consists of an L shaped grip with multiple pairs of bores along both the upper and lower ends of the grip. The bores are spaced to receive pins for an independent plunger mechanism. It should be noted that the plunger is removable and could therefore be easily dropped or lost when needed the most, thus making the loader ineffective and impractical in combat reloading situations.
[0012] The Williams’ 683 Reloader is designed to accommodate multiply sized magazines. Although good in theory, the design requires an operator to waste valuable and precious time prior to using the device by having to properly align the L-shaped grip and bores to magazine while aligning and introducing removable plunger with spring loaded pins to bores on top of L-shaped grip. Unlike the present invention, this device does not plague cartridges into magazine but instead plunges/depresses magazine follower further requiring operator to manually load cartridges into magazine open top end one cartridge at a time. Upon further review and evaluation, the Williams’ 683 Reloader device is cumbersome, awkward and difficult to use. The initial set up is time consuming and the varied magazine design is impractical, allowing cause for multiple loading failures due to its two-part design.
[0013] U.S. Pat. No. 6,810,616B2, also to Williams, is a magazine loader and unloader accessory. Unlike the invented device the Williams’ 616 Patent claims to be for both loading and unloading. This device is small, fitting in the palm of the hand of the operator. This device which is made of nylon fiberglass is impractical due to its small size. This device incorporates a housing that fits poorly over the open end of the magazine and incorporates a concealed retractable plunger located at the top of the housing. Once housing is placed over the top of open end magazine, operator must retract plunger and thrust it downward, pushing follower down and exposing the front open end of the magazine and requiring operator to load magazine by inserting rounds one at a time and then maneuvering plunger handle forward to allow clearance for the next round to be loaded. The retractable plunger handle which is very small, is awkward to operate and also cumbersome to deploy. While loading rounds with this device is awkward, unloading rounds is both impractical and nearly impossible. The dual purpose housing is very small so does not fit properly over the open end of the magazine, posing yet another problem for the operator. There are no commonalities in the design, functionality or methodology of this device vs. the invention.
[0014] Commenga U.S. Pat. No. 7,497,044 B2 discloses a hinged magazine loading device approximately 12” in length and approximately 2” in width. This rather large device incorporates a hinge which once opened exposes an open clam-
neled tray. The operator in order to load the magazine using this device must first load rounds/cartridges into tray one round at a time. The channeled tray is open on both extremes allowing rounds to fall into channel and disallowing proper loading of the device as designed by the producer of the device. This device made of nylon fiberglass is designed poorly, is bulky and time consuming, making the process of loading it cumbersome and adding additional precious time to the process when time is of essence. The device once loaded and rehinged closed, is designed with a housing that fits the open end of the magazine. Once device is loaded, operator is to place device over top end of the magazine and using a lever on the device, is to push lever downward, thrusting rounds into magazine simultaneously. The present invention utilizes an entirely different methodology from the Commena '044 Patent, which is designed only for loading unlike both Williams devices also used for un- and reloading.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015] FIG. 1 shows the Parts of the Magazine Loader and the Magazine
[0016] FIG. 2 shows Loading of a Bullet or Cartridge to the Aperture of the Magazine Loader
[0017] FIG. 3 shows the Magazine Loader with Lever Ready and Magazine Full
[0018] FIG. 4 shows the Magazine Loader Loading the Magazine with Lever Depressed
[0019] FIG. 5 shows the Magazine Loader and the Magazine with Spring and Follower Pushing up against the Stacked Cartridges
[0020] FIG. 6 shows a Cocked Firearm with Magazine Fully Ready to Deploy
[0021] FIG. 7 shows the Magazine Loader Prior to Engaging with the Magazine
[0022] FIG. 8 shows Lower Housing Catches of Magazine Loader Aligning with the Magazine
[0023] FIG. 9 shows Lower Housing Catches of Magazine Loader Fitting over the Magazine
[0024] FIG. 10 shows Lower Housing Catches of Magazine Loader Engaging with a Magazine
[0025] FIG. 11 shows the Magazine Loader Completely Engaged with the Magazine
[0026] FIG. 12 shows a Magazine Loader in a Configuration to fit the AK47 Kalashnikov
[0027] FIG. 13 shows a Magazine Loader in a Configuration to fit the Colt AR-15

DETAILED DESCRIPTION

[0028] FIG. 1 shows the Loader which is the invented apparatus, juxtaposed with the magazine to be loaded. As shown in the FIGS. 2-4, the functionality of a magazine is such that each time a cartridge or round is loaded, the magazine spring further compresses, requiring more insertion force. With the invented device, the operator simply slides the loader securely over the top open end of the magazine, as in FIG. 7-11, the loader upper housing #1 and lower housing #2 at this point disallows the operator from exposing his fingers and thumb to the open end of the magazine and it’s sharp lips. The lips are covered completely by the Loader lower housing #2. Operator then introduces round/cartridge into funneled port chamber of upper housing #1 as shown in FIG. 2. The lower housing catches # keep the housing securely in shape and prevent disengagement from the magazine, as in FIG. 7. Once round/cartridge is in open funneled port of upper housing, operator squeezes loading lever #4 as in FIGS. 3-4, causing the spring loaded arm/hammer #3 to make contact with round/cartridge and push round/cartridge into magazine, thus chambering the round/cartridge and pushing down the metal strip and the spring. It is the stored potential energy of this spring that forces the rounds/cartridges/bullets into the chamber of the firearm later as shown in FIG. 6, which is the principle of most magazine loaded firearms.

[0029] Meanwhile, the lower housing/#2 and lower housing catch #5, as shown in FIGS. 8-11 prevent the loader from disengaging from the magazine by allowing the arm/hammer #3 to thrust round/cartridge into top of magazine compressing magazine spring #9 further down into magazine #8. The roller pins #6 and 7 secure lower housing #2 in place as well as secure lower housing to arm/hammer #3 and loading lever and spring #4. The roller pins provide the pivotal interface which allows for a squeezing moment to complete the loading action described before. See FIGS. 12 and 13 for two firearm designs. Although the most noticeable positive results of the invented device are with those firearms that utilize high capacity magazines such as with AR15/M16, AK47/74 Kalashnikov (both designs of which are depicted in FIGS. 10 and 11), and M1A/M14 firearms, the loading mechanism is also fully adaptable to firearms such as the FN Fal.308, MPS 9 mm, UZI 9 mm, Colt SMG 9 mm, MPS, G36 and Galil.

[0030] It is understood that the loading principle of this Loader is not confined merely to the area of firearms or to specifically firearm magazines. Indeed, in common parlance, a magazine is any storage chamber to be used for loading supplies. The principle here is easily usable in any flexible storage chamber with a cumbersome opening, and with uniformly sized, preferably round objects. It is also important to note that the present invention is not restricted solely to the configurations described and displayed herein, but may use any kind of sufficiently compact and user-friendly interface which fits over a magazine or storage chamber. Nor indeed is the system limited to any narrow representation or implementation of the shapes depicted above. It is important, therefore not to lose sight of the fact that the diagrams shown above are merely exemplary and illustrative in nature, and in no way a limiting definition of the current invention.

What is claimed is:

1. A device to load a plurality of uniformly shaped objects into a storage chamber comprising:
   a. a loader housing in the form of a chamber to temporarily store the uniformly shaped objects and which engages with the open end of the storage chamber to fit tightly over this open end;
   b. a loading funnel forming an aperture to receive the uniformly shaped objects into the loader housing;
   c. a lever, handle or knob which when depressed effectuates delivery of the uniformly shaped objects through the open end of the storage chamber;
   d. a spring-loaded pushing member actuated by the loaded lever, handle or knob which pushes and properly delivers the temporarily stored uniformly shaped objects in the loader housing through the open end of the storage chamber in order to load them;
   e. the device constructed from strong durable materials.

2. The device of claim 1, wherein the storage chamber is a firearm magazine and the uniformly shaped objects are bullets or cartridges.
3. The device of claim 2, wherein the firearm magazine is used in conjunction with a weapon.
4. The device of claim 3, wherein the weapon may be a pistol or automatic rifle.
5. The device of claim 1, wherein the loader housing fits tightly over the open end of the storage chamber by means of a catch which holds it in place.
6. The device of claim 1, wherein the loader housing engages with the open end of the storage chamber by means of a slide-rail which engages with grooves in the outer wall of the storage chamber.
7. The device of claim 1, wherein the loader housing, the lever, handle or knob and the spring-loaded pushing member are firmly and flexibly secured together by means of two roller pins.
8. The device of claim 7, wherein the two roller pins allow the lever, handle or knob a pivoting motion to guide the pushing member in place to push the uniformly shaped objects into the chamber.
9. The device of claim 8, wherein the loader housing engages with the open end of the storage chamber by means of a slide-rail and the roller pins guide the loader housing into place along the slide-rail.
10. The device of claim 2, wherein the loader housing engages with the open end of the firearm magazine by means of a slide-rail which engages with grooves in the outer wall of the firearm magazine.
11. A method of loading a plurality of uniformly shaped objects into a storage chamber, by means of a loading device, comprising the steps of:
engaging a housing member of the loading device to fit tightly over the open end of the storage chamber, this housing member temporarily storing the uniformly shaped objects;
introducing and loading the uniformly shaped objects into the housing member through a loading funnel forming an aperture to receive the objects;
delivering of the uniformly shaped objects through the open end of the storage chamber by depressing a lever, handle or knob, which further actuates a spring-loaded pushing member which in turn pushes and properly delivers the uniformly shaped objects into the storage chamber, wherein the lever, handle or knob, and the spring-loaded pushing member are securely and flexibly conjoined with the housing member of the device.
12. The method of claim 11, wherein the storage chamber is a firearm magazine and the uniformly shaped objects are bullets or cartridges.
13. The method of claim 12, wherein the bullets or cartridges are introduced primer end first into the loading funnel forming an aperture.
14. The method of claim 12, wherein the steps of introducing and loading the uniformly shaped objects into the housing member, and of delivering of the bullets or cartridges through the open end of the storage chamber by depressing a lever, handle or knob, are effectuated in rapid successive cycles until the firearm magazine is loaded quickly and fully.
15. The method of claim 11, wherein the engaging the housing member of the loading device over the open end of the storage chamber is achieved by firmly sliding the housing member over the top of the open end of the storage chamber until it locks in place.
16. The method of claim 11, wherein the introducing and loading the uniformly shaped objects into the housing member is achieved by means of an aperture in the housing to securely receive the objects one at a time, and further comprising the step of slightly tilting the loading device back before inserting the uniformly shaped objects into the aperture.
17. The method of claim 11, wherein the introducing and loading the uniformly shaped objects into the housing member is achieved independently of an aperture in the housing and where multiple uniformly shaped objects may be loaded at once into the housing member, temporarily stored there, and then subsequently loaded into the storage chamber.
18. The method of claim 11, wherein the housing member, the lever, handle or knob and the spring-loaded pushing member are firmly and flexibly secured together by means of two roller pins which allow rapid actuation of the spring-loaded pushing member by depressing the lever, handle or knob.
19. The method of claim 15, wherein the engaging the housing member of the loading device over the open end of the storage chamber is further achieved by means of a slide-rail and the step of depressing the lever, handle or knob guides the loader housing into place along the slide-rail.
20. The method of claim 19, wherein the slide-rail engages with grooves in the outer wall of the firearm magazine.

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