

## AMMUNITION MAGAZINE

### FIELD OF THE INVENTION

- 5 The present invention relates to an ammunition magazine particularly though not solely to a magazine for easy loading of rounds of ammunition into a speed loader, and a method of loading a speed loader.

### BACKGROUND

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Most organisations that dispense weapons to their members, store the weapons in an armoury. The armourer has the job of allocating sets of weapons to individuals and recording both their withdrawal from and return to the armoury. In case of a police armoury, this can often involve hundreds of such sets being  
15 transferred over a short space of time, as a shift change occurs.

Typically the weapon is provided unloaded and ammunition for each weapon is provided in a separate magazine. The officer then manually loads each individual round into the weapon, cartridge holder and/or speed loader.

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### SUMMARY OF THE INVENTION

In general terms the invention proposes that an ammunition magazine retains the ammunition in a configuration and/or orientation that permits simultaneous  
25 insertion into a speed loader. This may have the advantage that loading of weapons in the armoury is more efficient, safe and/or convenient.

In a first particular expression of the invention there is provided an ammunition magazine as claimed in claim 1.

## BRIEF DESCRIPTION OF THE DRAWINGS

One or more exemplary embodiments of the invention will now be described,  
5 with reference to the following figures, in which:

Figure 1 is a plan view of an empty ammunition magazine according to an exemplary embodiment;

Figure 2 is a cross section view of a portion of the magazine in Figure 1 in use;

Figure 3 is a bottom view of the magazine in Figure 1,

10 Figure 4 is a perspective view of the magazine in Figure 1,

Figure 5 is a bottom view of a speed loader,

Figure 6 is a flow diagram of a method of loading a speed loader according to an exemplary embodiment, and

Figure 7 is a plan view of an armoury tray according to an exemplary  
15 embodiment.

## DETAILED DESCRIPTION

Referring to Figures 1 to 4 an ammunition magazine 100 is shown according to  
20 an exemplary embodiment. A main surface 102 is shown in the shape of a figure of eight and has an outer rim 104. A number of receptacles 106 are provided in the main surface 102 to house the ammunition.

The receptacles 106 are organised in two sets 142, 144 of geometric circles.  
25 There may be five or six receptacles in each set depending on the type of revolver the ammunition is designed for. The receptacles 106 are all of a depth to allow easy loading of the ammunition into a speed loader, whilst securely restraining the ammunition during normal transporting. For example the centre of gravity 128 for each round 130 in each receptacle 106 may be below the  
30 main magazine surface 102 when the magazine 100 is held in its normal horizontal orientation, such as 5mm below the main surface 102. There may be at least 20mm of each round 130 exposed, with the rim/head 134 of each

cartridge uppermost. The tolerance 132 for each receptacle 106 is a snug fit, such that each round 130 cannot move significantly during transport, but permitting easy insertion and removal. For example the tolerance may be 0.5mm.

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The figure of eight shape may be described as two circles 136, 138 having an interconnecting portion 140. Alternatively the shape maybe described as approximating a Cassini oval of a type where  $1 < b/a < \sqrt{2}$ .

- 10 The geometry of each set 142, 144 of receptacles depends on the type of revolver the ammunition is designed for. For example a speed loader designed for a Tarus model 85 revolver with a five round cylinder, has a geometry 500 as shown in Figure 5. The speed loader is designer to load five .38spl rounds with a rim/head diameter 502 of 11mm, rounds spaced about a circle 504 of radius
- 15 10mm. Consequently each set of receptacles 142, 144 are arranged about a circle of radius 10mm with each receptacle having a diameter of 10mm to house each round with a base diameter of 9.6mm.

- The outer rim 104 provides a mating surface for a matching receptacle (616
- 20 Figure 6) in which the magazine 100 may be located. The interconnecting portion 120 of the outer rim 104 also provides a pseudo hand hold for the user to grip the magazine 100 while transporting. The outer rim 106 may be deeper than the receptacles 106, to minimise the chance of rounds being dislodged when the magazine is dropped into the tray (Figure 7).

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The magazine 100 may be blow moulded from plastic such as hard PVC. The thickness of the main surface 102 and relative height of the outer rim 104 may depend on the type of rounds. For example outer rim 104 is approximately 25% of the length of the main surface 102 and the thickness 1mm.

Referring to Figure 6 a method of loading a speed loader is shown according to an exemplary embodiment. At 602 five rounds are seated into each set of receptacles. At 604 the magazine is stored in a tray and each tray stored in a rack. At 606 the tray is withdrawn by an officer. At 608 the officer engages the speed loader to the rims of the first set of rounds and locks the speed loader. At 610 the speed loader is withdrawn and used to load the revolver. At 612 the speed loader is engaged to the second set of rounds and then locked. At 614 the loaded speed loader is loaded in the officer's equipment belt. At 616, after the shift, the magazine is reloaded with the unused cartridges.

Referring to Figure 7 the ammunition magazine 100 is shown in use, retained in an armoury tray 700. The main tray surface 702 is a flat rectangle and has an outer rim 704. A number of receptacles 706 are provided in the main tray surface 702 to house various weapons and the ammunition magazine 100. The magazine is returned with an ammunition receptacle 716.

Many variations of the above exemplary embodiments are possible within the scope of the following claims, as will be clear to a skilled reader.

## CLAIMS

1. An ammunition magazine comprising:  
a rigid main surface,  
5 a plurality of receptacles in the surface, each receptacle configured to receive a round, the receptacles being juxtaposed to provide simultaneous loading of a speed loader, and  
a rigid outer rim surrounding the rigid main surface configured to mate with a matching receptacle in an armoury tray,  
10 wherein the rigid main surface has a periphery in the shape of a figure 8, two interconnected circles and/or a Cassini oval of a type where  $1 < b/a < \sqrt{2}$ .
2. The ammunition magazine as claimed in claim 1 wherein the plurality of  
15 receptacles are arranged in two separated circles.
3. The ammunition magazine as claimed in any one of the preceding claims wherein each receptacle is configured to have an opening above which a  
portion of each round of a cartridge is accessible to a speed loader when the  
magazine is held horizontally.  
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4. The ammunition magazine as claimed in any one of the preceding claims wherein each receptacle is configured to have an opening to allow each round  
retained therein to be closely contained without impeding withdrawal or deposit.
- 25 5. The ammunition magazine as claimed in any one of the preceding wherein an interconnecting portion of the outer rim is configured to function as a hand hold.
6. The ammunition magazine as claimed in any one of the preceding  
30 wherein the magazine is moulded plastic.