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Kersten

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[54] **METHODS AND DEVICES FOR PACKING AND LOADING AMMUNITION**

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[51] **Int. Cl.** **F41c 25/02**

[58] **Field of Search** ..... 42/49 R, 87; 86/47; 206/3; 224/15

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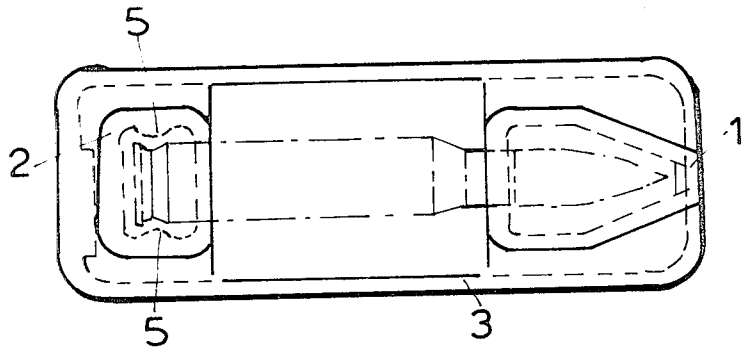
[57] **ABSTRACT**

An ammunition container, in particular for small arms, such as rifles, sub-machine guns and machine guns is provided which combines features adapted for protective packaging and for loading the ammunition into magazines or the like. The container is usually made of plastics and is disposable. It eliminates special loading funnels for weapons which required such loading funnels for loading the magazines.

Some embodiments are waterproofed by a plastics foil. Those embodiments which are designed for transferring the ammunition from the package into a magazine comprise formations which either fit around the outside or into the inside of the magazine for proper alignment. Luminous indicating means may be provided to facilitate loading in the dark. The containers can be made so that they will float on water.

The invention improves the firing power of troops, reduces the weight per round of ammunition to be carried by troops, and saves costs.

5 Claims, 39 Drawing Figures



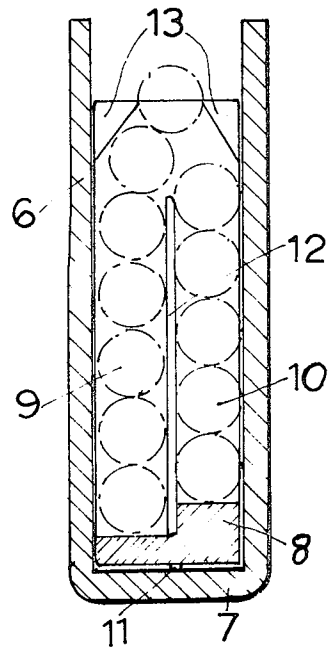


FIG. 1A

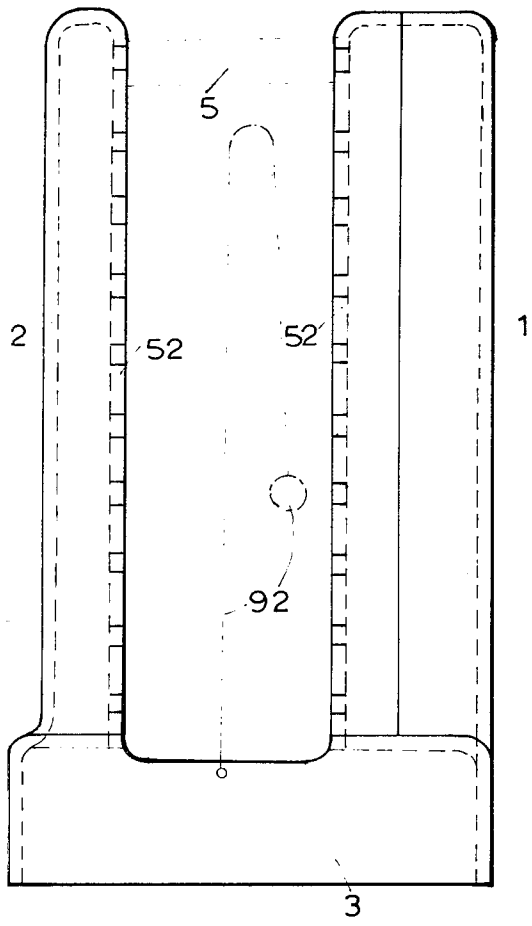


FIG. 1B

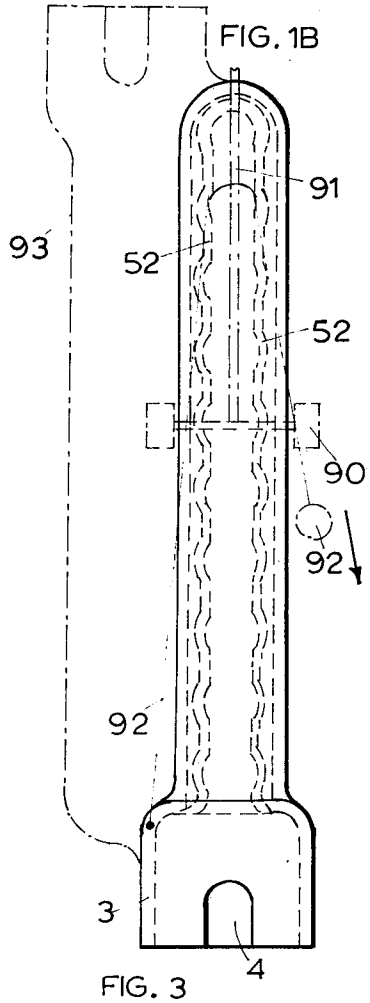


FIG. 1C

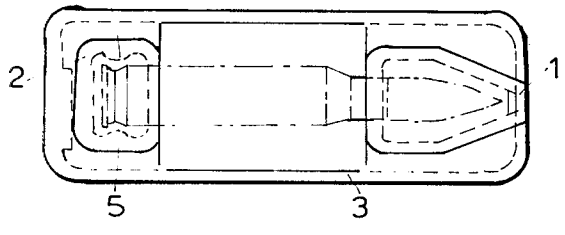


FIG. 2

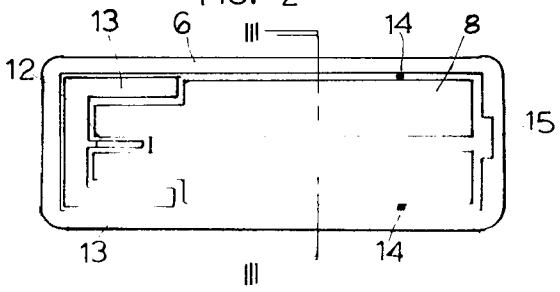
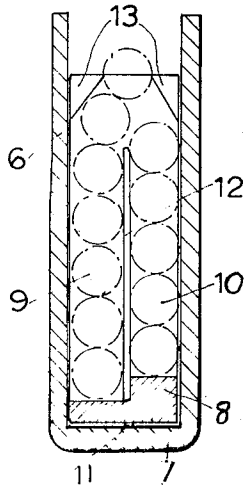
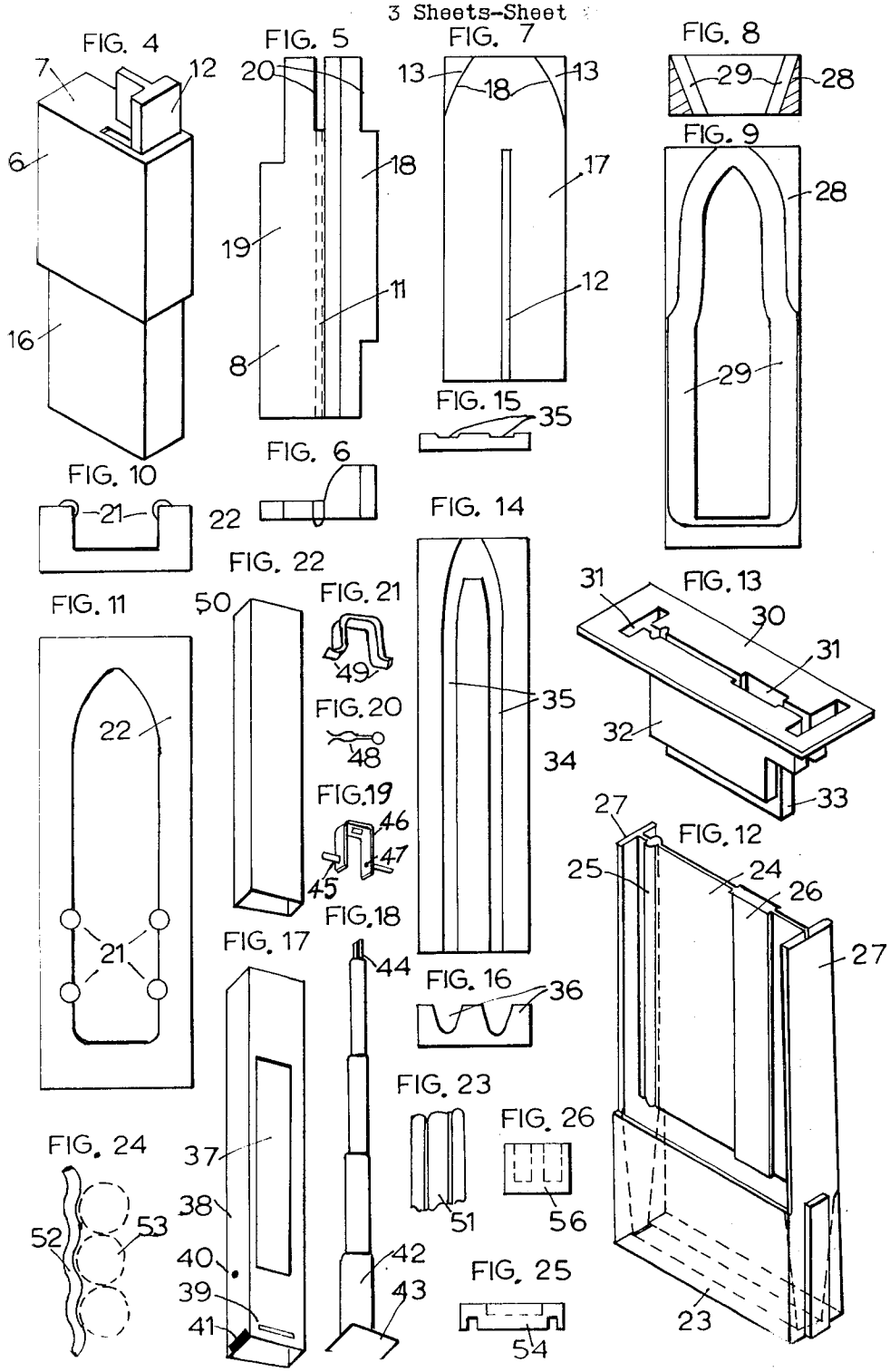


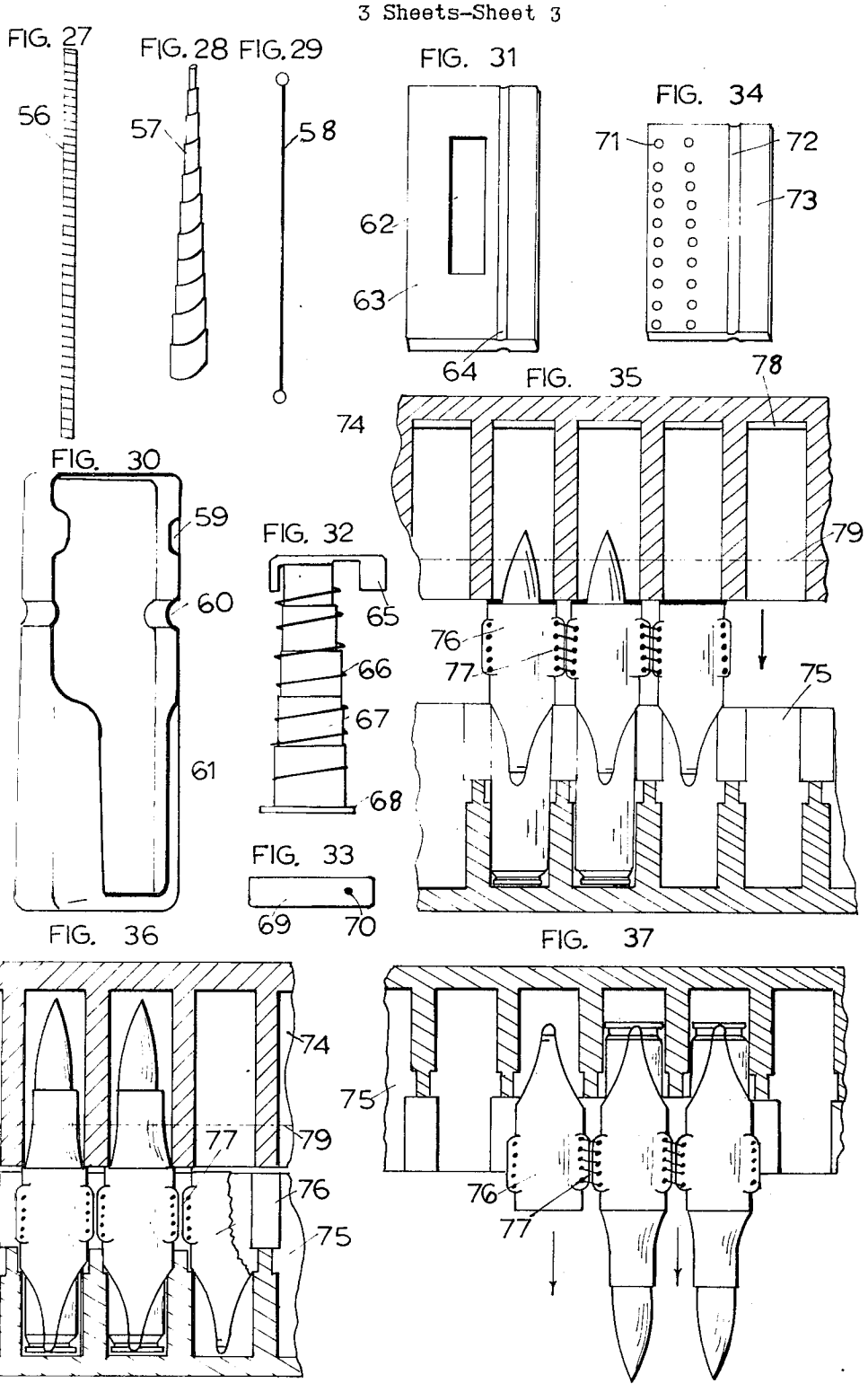
FIG. 3



3 Sheets-Sheet



3 Sheets-Sheet 3



METHODS AND DEVICES FOR PACKING AND LOADING AMMUNITION

BACKGROUND OF THE INVENTION

This invention relates to handling of ammunition from the stage of manufacture up to the stage of loading.

Primarily the invention is concerned with rifle and rifle calibre ammunition handling, that is, the packaging, storing, transport and charging or loading of the ammunition usually into a magazine of a weapon, but also into the breech of a weapon. The term "magazine" is herein used in a wide sense to include all means of holding ammunition and feeding it into a weapon breech. Magazine thus includes not only box and drum type magazines, but also belts for ammunition and the less common trays and strips. The invention finds particular application to semi-automatic, automatic, submachine and machine weapons, such as are current today for military purposes.

Authorities of automatic weapons recognise that the magazine is the most important functional part in the use of the weapons (which statement is in fact applicable to any weapon).

The first two points of evaluation which authorities list are:

1. Can the magazine be easily fed into the weapon, especially at night? and
2. Can the magazine be easily loaded without the use of special loading tools?

These two requirements cannot be met fully satisfactorily by any present-day weapons or magazines, as the magazine lips are liable to be damaged during charging or loading and no magazine can be loaded readily with or without tools.

Further, up to the present the storage, packaging, handling and loading of ammunition has been subject to difficulties and drawbacks in connection with the following:

1. Elaborate wrapping, packing, sealing (soldering) and boxing of the ammunition at the ammunition factory.

2. Storage of ammunition free from damage and contamination.

3. Unpacking and unwrapping of ammunition prior to use.

4. Keeping the issued ammunition free from moisture and dirt, and handling the ammunition prior to loading without contamination, e.g. by sand. In particular when the soldier has to put the ammunition down when handling, say, two loading clips or loose ammunition, in addition to the magazine and his rifle when loading. The problem arises thus, how is the soldier going to handle the ammunition in the field without getting dirt on to the ammunition while loading quickly in the face of an enemy attack.

Again if the soldier stacks the ammunition in readiness when expecting an enemy attack there is most likely going to be an accumulation of dirt on the ammunition for he cannot protect the exposed ammunition against dirt due to the present form and procedure of packing and loading. In particular, as the ammunition has to be unpacked prior to stacking and prior to loading.

5. At present the soldier has to be supplied with a relatively expensive filler (funnel), a loading device for box magazines. The soldier has every opportunity of dropping this funnel or the ammunition during the loading operation, particularly in case of emergency, as the loading operation involves use of three separate items, the magazine, funnel and clip usually holding five rounds. Since magazines commonly hold 20 rounds this awkward operation must be repeated four times to fill one magazine.

The soldier has every opportunity of losing the funnel, particularly at night.

The funnel constitutes an additional piece of equipment which the soldier has to carry and which takes up packing space and is equipment which he may lose or forget to retain. 6. If the filler, which is an expensive item, is lost, then the soldier must strip the clip of cartridges and load each bullet in turn into the magazine, a tedious operation which seriously reduces his fire power. In a case of emergency this means additional operations have to be carried out, which may result in the soldier's death.

7. The loading clip may be manufactured out of a piece of strip steel with or without spring blade. Further, the clip has to receive a rust protecting layer. This item is generally regarded as expendable, although relatively complicated and expensive.

8. Giving the soldier an extra loaded magazine means additional weight to be carried and expensive magazines will have to be issued which may not be recoverable at all times, as the soldier may discard the emptied magazines when in action. The idea of retaining empty magazines in the field is impracticable, e.g. by replacing them into the pouches while lying flat and taking cover.

9. Due to the high firing rate of modern automatic weapons, there can never be enough and quickly loadable ammunition at the disposal of the soldier. 10. Although machine gun belts are generally loaded mechanically behind the lines and/or at depots it may be necessary to load the belt at the front line or at any other place without the mechanical aid.

This hand operation at the front line, or at any other place, involves unpacking of the ammunition and inserting the cartridges one by one into the belt, which is long — usually 50 cartridges — and unwieldy, with every chance of contamination. A slow process.

11. The present box type magazine is not ideal in its design for efficient and rapid loading. The friction resistance during loading and unloading of the magazines is relatively high. The number of cartridges in the magazines cannot be ascertained readily. The tiny inspection holes provided are generally unsatisfactory.

An object of this invention is to provide means adapted to obviate or alleviate some of the above described difficulties and drawbacks.

SUMMARY OF THE INVENTION

Means in accordance with this invention comprises ammunition containers adapted for packaging and for loading ammunition, optionally formations adapted to embrace the nose ends and formations adapted to embrace the head ends of cartridges. Thus a single article serves a dual purpose, both packaging and loading.

Such means is preferably waterproof and dustproof, and in accordance with a preferred embodiment of the invention is disposable, made of a suitable plastics material, such as, for example, polypropylene, celluloses, acrylates, high density polyethylene, PVC, etc. and

other polymers or a combination of such and/or other materials.

It is advantageous for the material to be transparent or translucent, which aids identification and loading of the ammunition.

The means in accordance with the invention is preferably employed for packaging the ammunition by the supplier or manufacturer, the shape of the container being in accordance with the type and size of ammunition and number or rounds, and adapted in accordance with its functions and requirements in relation to loading into the magazine, belt or firearm breech to which it is to be applied.

It may be advantageous for the means to be provided with illuminating, luminescent or phosphorescent indicators to aid handling and loading in the dark.

It may be advantageous for the means to be adapted to float on water, even when filled with ammunition.

In accordance with a preferred embodiment of the invention the container is adapted to slide over the outside of the magazine, while at the same time forcing ammunition into the magazine, in place of only fitting onto the magazine mouth. This can be achieved without removing the magazine from the rifle or the like.

In the case of the belt the invention provides a means of pushing the belt clips over the ammunition as required in order to hold the cartridges correctly.

The container may advantageously be adapted to the outer respectively inner shape of the magazine so that it can only be fitted over the lips of the magazine, slid over or into the magazine the correct way round.

In accordance with one embodiment of the invention the rounds of ammunition are held in the container in two rows or in single rows as required, all such arrangements being herein encompassed by the term "column" as including single and double or staggered columns.

In accordance with a preferred embodiment of the invention the container is provided with a rocker member, adapted to be located at the bottom of the container, and comprising a stepped surface adapted to stagger the two side-by-side rows of rounds, and adapted to be rockable to a limited extent on an axis parallel to those of the rounds. If a suitable magazine is used, the rocking can be eliminated. In other magazines however, due mainly to the dimensions of the lips, rocking is essential.

It is advantageous for the two side-by-side rows of rounds to be separated by a separating strip, which may extend along the full lengths of the rounds or for only part of their lengths.

It is advantageous for a feeding component to be provided, adapted to aid in feeding rounds from the container singly into the magazine. Such a component preferably comprises a mouth through which the rounds must pass, furnishing opposed ramps with a gap between them, narrowing towards the outside. Again, the mouth may extend for the full lengths of the rounds or for only part of the lengths.

In accordance with a preferred embodiment of the invention the dividing strip and feeding component are joined together, forming one piece.

Cartridge guide strips or grooves, e.g. corresponding to the rim, cannelure or nose may also advantageously be provided in the container, adapted to assist and regulate the easy discharging of the rounds with or without spring-back protrusion for locating, separating and holding rounds.

The end of the container adapted to be pushed over the magazine may advantageously be provided with a removable shutter comprising preferably a flat slidable closure member, alternatively a plug or cover — or a combination of both.

The base of the container must be provided with a slot through which the dividing strip assembly, which may be able to disintegrate, e.g. break up into little pieces, may slide out of the container as it is being pushed over a magazine and is discharging its contained ammunition into the magazine. Similar provisions may preferably be made for the feeding component container which is preferably sealed before use by a thin film which may be easily broken when the container is used to load ammunition.

The container may alternatively or additionally be air/water proofed by an inner or outer closed sachet of a thin, easily opened material, e.g. polyethylene foil.

The size of the container may be adapted according to the number of rounds it is desired to load at one time.

The feeding component may narrow towards the outside of the mouth in a straight, concave or convex taper as is most suitable. In accordance with further embodiments of the invention steel balls or rods are employed to narrow the opening so that rounds come out singly.

In accordance with a further embodiment of the invention the bullet noses are guided by running in suitable slots or furrows.

Preferably the shutter is made extractable only in one direction so as to give the soldier an indication of in which direction the bullet noses are.

Preferably the plug and/or cover type of closure may be so designed and/or arranged as to indicate the direction of the bullet nose.

The container may be provided with lugs or other means (spring-back protrusions) adapted to prevent rounds from coming out of the container before it has been pulled over or inserted into the magazine.

Preferably the container is packed with ammunition and sealed at the factory.

Thus ammunition clips and a loading funnel are dispensed with. The ammunition is retained in factory condition until the moment of loading into the magazine and/or belt. Furthermore, a full magazine of ammunition and/or a belt may be loaded in one action, greatly speeding this process.

The containers above described are cheap and may be expended in part or as a whole. Their weight is low, and they lend themselves to mass production.

The material of construction may be selected in accordance with the temperature and other conditions it is expected to stand up to.

In accordance with a further embodiment of the invention a container is adapted for use as a magazine itself, preferably but not necessarily disposable. The magazine is provided with a spring feed or other feed mechanism, adapted to feed rounds into the firearm breech.

The container may comprise most of the features described above where applicable or desired or required.

Preferably the containers are of light weight and of outer proportions that aid efficient packing.

The containers are advantageously packed at the factories with the ammunition and remain sealed until they are quickly and easily used by the soldier. Danger of contamination before use is thus minimized and use of containers as magazines may have additional advantages.

In accordance with a further embodiment a packing and loading device is adapted to slide into the magazine which is adapted in accordance with this function.

In accordance with this application a magazine is provided to permit sliding of the packing and loading device into the magazine.

In this form there is little or no friction between the cartridges and the packing and loading device during the insertion of the device and little friction during the discharging of the cartridges from the packing and loading device.

In one form the magazine is provided with a stop in order to retain the base plate of the magazine extension device at its required position.

In addition, the base plate and the closing plate of the magazine, if provided for, are locked into position.

The cartridge platform which carries the ammunition towards the weapon chamber may be attached and controlled by a telescopic springloaded extension unit in order to prevent extension and movement of the cartridge platform beyond the desired length (height).

In another form the telescopic device may be tubular, rectangular and of any required shape. It may also be in the form of cords, chains, links or any form to give the desired extension control.

The springs for raising the cartridge platform may be placed internally and/or externally relative to the extension device.

Springs of various types, shapes and designs may be used in accordance with the requirements of the design.

The cartridge platform and/or the platform may be permanently fixed to the extension unit or detachable.

In one form locking of the cartridge platform at a specified position(s) may be provided for.

In one form this is provided for by springloaded pins installed in the cartridge platform device.

In another form locking may be provided for by the spring action of the cartridge platform sides.

In another form this may be executed by a hooking or locking attachment attached to the magazine case.

In the one form the application is that the protrusions and pins lock into holes from whence they may be released by simple manual pressure.

In one form the cartridge platform is so designed that its sides are still retained in the magazine case while the platform level is protruding beyond the magazine end.

In general the magazine is not provided with lips as an integral part.

The lips in one form are provided within the weapon due to its design, alternatively as a separate entity within the weapon or as a special unit which is placed over and/or at the end of the magazine and is inserted with the magazine into the weapon, or they are provided for as part of the plastic packing and loading device.

In one form the lips are manufactured of such quality as to give optimum service, particularly as in this form they are not subjected to damage as may usually be experienced with ordinary magazines.

In accordance with a further embodiment the packing and loading device is as stated above, made from a suitable material, plastics or otherwise (including metals).

In one form this packing and loading device permits sliding of the ammunition and the cartridge platform through the device.

In one form guides are provided for the platform and/or for the ammunition.

In one form spring-back protrusions or other protrusions are provided for in order to retain the ammunition in its desired position and order as may be required and desired relative to the cartridge platform design.

In one form both ends of the packing and loading device are open.

In one form closures of the plug, cover and/or any combination thereof are provided for.

In one form a stop may be provided to prevent interference between bolt action and the packing and loading device.

Loading of Belts

In one of its forms the packaging and loading container provides a means for loading (machine gun) belts.

In one form the ammunition is contained in a packaging and loading container which consists of a "bottom" and a "lid". (It is only relative what is called bottom or lid).

On removal of the lid the cartridges are retained in the bottom in a suitably closed packed array standing upwards - bullets up.

In one form the belt is placed over the cartridges with the belt finger clips towards the cartridge base.

By replacing the lid over the cartridge and the belt links, and pressing the lid down, the links are pressed down over the cartridge casings till the links are in their correct position.

On removing the lid the loaded belt can be removed (for use).

In one form the packing and loading device may be provided with a special holed plate separately or incorporated in the lid which may be used to press the links over the cartridges.

The material of the lid and box are chosen so that they withstand the functions satisfactorily.

In one form provision of a cushioning layer is provided for steadying the cartridges in the packaging and loading container.

Suitable plastics may be used.

In one form the packing and loading device provides a means that the belt fingers are next to cartridge case within the bottom of the packing and loading device, i.e. the cartridge loading holes make also provision for the fingers.

In one form the said provision can be extended to accommodate the whole or part of the belt.

In one form the loaded belt can be retained within the packing and loading device after loading.

In another form the use of a holed plate allows that the loaded belt can be retained in the recessed lid and/or bottom. The holed plate may or may not be retained in the packing and loading device.

In one form or other all the relevant modifications stated in this application are applicable to all the vari-

ous packing and loading devices including modified magazine types and belt loaders.

Large Container

In one form all these loading devices are packed into a larger container which is made out of a suitable plastics which in one form may be fitted with a plastics hinge, fitted with unloading strips in order to lift the small loaders and packing devices readily fitted with handles and fitted with sealing tape or other sealing device.

This large container provides a means of packing ammunition, dirt- and waterproof. It also permits visible inspection whether these containers are full or empty. The container in one form may be camouflaged.

BRIEF DESCRIPTION OF THE DRAWINGS

In order to more fully describe the invention, the following preferred embodiments are described by way of example with reference to the accompanying drawings, without limiting the invention thereto.

In the drawings:

FIGS. 1*a*, 1*b* and 1*c* show a container adapted for fitting on to a magazine in accordance with the preferred embodiment of the invention, in front elevation, and elevation and plan respectively.

FIG. 2 shows a preferred embodiment of the invention in plan view adapted for sliding over a magazine in accordance with one embodiment of the invention.

FIG. 3 shows the container illustrated in FIG. 2 on Section III—III.

FIG. 4 shows the container illustrated in FIGS. 2 and 3 in perspective view being used to load a magazine.

FIG. 5 shows a rocker suitable for the container illustrated in FIGS. 2 to 4.

FIG. 6 shows the rocker illustrated in FIG. 5 in end view.

FIG. 7 shows an alternative combined feeding member and guide strip suitable for the container illustrated in FIGS. 2 to 4 in sectional end view.

FIG. 8 shows an alternative type of feeder member in sectional end view. FIG. 9 shows the feeder member illustrated in FIG. 8 in plan.

FIG. 10 shows a further alternative feeder member in end view. FIG. 11 shows the feeder member shown in FIG. 10 in plan.

FIG. 12 shows an alternative type of feeder member and separator strip combined, in perspective view.

FIG. 13 shows a pusher member or container base corresponding to the combined feeder member/separator strip shown in FIG. 12.

FIG. 14 shows a part adapted for guiding the bullets' noses, in elevation.

FIG. 15 shows a sectional end view of the part illustrated in FIG. 14.

FIG. 16 shows in similar view an alternative groove depth for the part illustrated in FIG. 14.

FIG. 17 shows the outer casing of a magazine.

FIG. 18 shows a telescopic springloaded extension control unit.

FIG. 19 shows the cartridge platform which will be attached to the top end of the telescopic extension illustrated in FIG. 18.

FIG. 20 shows a type of attachment when using a clip.

FIG. 21 shows another type of cartridge platform with side clips.

FIG. 22 shows a plastic loader which is to contain the ammunition.

FIG. 23 illustrates one type of guides.

FIG. 24 shows a type of spring-back protrusion positioning device.

FIGS. 25 and 26 show end plugs for the ammunition packing and loading device.

FIGS. 27 and 28 show two types of springs.

FIG. 29 shows one type of extension control in the form of a cord.

FIG. 30 shows the guide lips to hold and to direct the ammunition into the breech.

FIGS. 31–34 show the parts of an alternative magazine for, say, a 7.62 mm cartridge, in which FIG. 31 shows the outer casing, FIG. 32 shows the telescopic extension with an external spring, FIG. 33 shows a possible closure of the magazine bottom, and FIG. 34 shows the plastic magazine storage and loading device to contain the cartridges.

FIGS. 35–37 show a belt loading device with container sectioned, in which FIG. 35 shows the belt pressed over the cartridge case by means of the lid, FIG. 36 shows the normal packing device closed position with belt.

FIG. 37 shows the alternative packing device which contains the belt and cartridges after loading, lid removed.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

As shown in FIGS. 1*a*, 2*b* and 1*c* the container adapted for loading a magazine comprises two embracing formations 1 and 2, adapted to guide a single row of rounds stacked on top of one another.

The lower end 3 of the container is adapted to fit over a magazine, centrally.

A notch 4 is provided on one end only of the part 3 adapted to engage a tab on one end only of the magazine. Thus the container could not accidentally be put on to the magazine the wrong way round.

Internal guide strips 5 are provided, adapted to engage a groove in each bullet near the cap. Other guide strips adapted to reduce friction may be provided as desired or required.

The container may be adapted to be refillable by means of a further container or pack of ammunition adapted to be connected to the first container and have its ammunition discharged via the first container into the magazine. The two may be hinged to each other.

This container may perhaps best be water-proofed and/or dust-proofed by means of one inner or outer sachet of polyethylene or similar means.

To load the rounds into the magazine the container is put on to the end of the magazine at 3 and the rounds pushed with the thumb down the guides 1, 2 into the magazine.

Any sealing cover may either be broken by the rounds coming out or first opened as suitable. Corrugations 52 tend to retain the rounds in position. Such protrusions may be applied in all embodiments of this invention.

For better packing parts 1 and 2 may be off-centre with regard to part 3. The free ends of formations 1 and 2 may be reinforced by a connecting part 5′ suitably located. Manually activated pushers can be provided, as indicated by broken lines 90 or as by broken lines 91. Other arrangements could be adopted. Another alter-

native is a cord anchored near the mouth and passing over the rounds column. The cord, band or strip 92 is so arranged that its free end may be pulled in a direction to result in the rounds being discharged. Lines 93 show an integral double container each part of which may have the described features.

As shown in FIGS. 2 and 3 a container for ammunition adapted to load rounds into a magazine comprises a substantially rectangular outer case 6 having a base 7. A rocker member 8 is located at the base 7, having a stepped upper surface adapted to stagger the two rows of rounds 9,10 and rockable to a limited extent on rod 11.

The base 7 is slotted and perforated suitably to allow the strip 12 and feeder 13 to pass through it as the ammunition is being discharged.

Strips 14 are adapted to engage corresponding grooves on the outer surface of the magazine, and groove 15 is adapted to accommodate a tab provided on one end only of the magazine. Thus the container can only be pulled over the magazine in the correct way round.

As shown in FIG. 4 to load the ammunition the container 6 is pushed over the magazine 16, the rounds being thereby forced into the magazine 16, while the strip 12 is pushed out through the slots in the base 7, to be followed finally by the feeder 13.

A separator strip 12 extends over only a part of the lengths of the rounds, and is integral with a feeder member 13, which comprises two tapered parts forming a narrowing opening. It may assist loading to bang the base 7 of the container with the hand. If the slots in the base 7 are sealed by a thin film of plastics, this will be broken by the loading operation, and if thin enough will not interfere with it. The top end of the container may be closed by a thin foil or by a removable shutter, slidable to open the container.

As shown in FIG. 7 the feeder mouth 13 and separator strip 12 are joined together by a backing 17. The tapered surfaces 18 may be convex, straight or concave as is found most suitable. Alternatively the feeder 13 may be eliminated depending on the size and shape of the magazine lips.

As shown in FIGS. 5 and 6, the rocker 8 has a ridge e.g. (metal) rod 11 on its underside, and its upper surface is stepped. The step 18 is half a bullet (cartridge) diameter higher than the step 19, thus staggering the bullets in the two stacked rows. Slots 20 are provided to allow the strip 12 and mouth 13 to pass through. Alternatively the rocker may be fixed and part of the base 7, and altered accordingly.

As shown in FIGS. 8 and 9 an alternative feeder mouth 28 extends along the full length of the bullets, tapered and profiled on faces 29 to the shapes of the bullets.

As shown in FIGS. 10 and 11, an alternative feeder mouth 22 may have balls 21 adapted to guide the rounds into coming out one by one.

As shown in FIG. 12 an alternative feeder mouth 23 and separator strip 24 may be made integrally. The feeder mouth 23 has tapered inner surfaces substantially as illustrated in FIG. 7, but extending along the full lengths of the bullets.

The separator strip 24 also extends across the full lengths of the bullets, and further is provided with a strip 25 and strip 26, adapted to the form of the bullet, and provided to reduce friction of the bullets when sliding into the magazine. Backings 27 are provided.

As shown in FIG. 13 the base of the container or movable pusher may comprise a bottom 30, suitably slotted for the strip 24 and backings 27 by slots 31, and stepped members 32, 33, which substitute for the function performed by the rocker 8 described above.

As shown in FIG. 14 a backing strip 34 may be grooved by grooves 35, adapted to guide the noses of the bullets.

As shown in FIGS. 15 and 16 the grooves 35 may be shallow or deep respectively as described or required.

The internal packing and loading device:

The ammunition is packed into the packing and loading device shown in FIG. 22–50, the internal packing and loading device, which is made from plastics or any equivalent material or metal.

The ammunition may be guided into the container 50 by means of guides, FIG. 23 –51, and/or by means of spring-back protrusions. FIG. 24, 52 illustrates one type of spring-back protrusion (also shown in FIG. 34, 71), with cartridges 53 shown positioned.

These spring-back protrusions space and hold the cartridges and prevent them from falling, dropping and sliding out of the loading and packing device, say, for example when the end plugs (lids) FIG. 25, 26 have been removed from the device, or when some ammunition is still left in the device when only part of the amount has been removed (or transferred to the magazine e.g. the external and/or internal packing and loading devices).

These spring-back protrusions and stops may be provided for all types of packing and loading devices dealt with in this application.

The packing and loading device (FIG. 22 – 50), is pushed into the magazine container 38, which contains in one form or another a telescopic or other extension device, FIG. 18, with one or other type of cartridge platform FIG. 19 and FIG. 21.

FIG. 17 shows a magazine case which has been provided with windows 37, so that one can view the loading device, FIG. 22, and the telescopic device, FIG. 18, and the cartridge platform FIGS. 19 and 21 in action. At the same time the windows 37 also form an aid for removing the loading device 50 from the casing 38.

In order to position the telescopic extension control device, FIG. 18, stops FIG. 17 – 39 have been provided for so that the end of the telescopic device FIG. 18 – 43 does not move from its desired and required position. The stop, FIG. 17 – 41, with or without an extra closing plate, FIG. 33 – 69, and the telescopic closing device (end plate 43) are prevented from falling out of the case by means of a locking device, FIG. 17 – 41, in the form of spring clips or otherwise.

The telescopic device 42 and the cartridge platform, FIG. 19 – 46, may be coupled together by means of the pin 44, and the clip, FIG. 20 – 48, or otherwise.

Alternatively these two components may be permanently joined together.

During the loading operation the platform 46 is depressed by the cartridges within the loading device and is locked by means of the side pins shown in FIG. 19 – 45 or FIG. 21 – 49.

The pins or protrusions will protrude through the holes FIG. 17 – 40, and lock. At the particular locking position shown, the ammunition is approximately level

with the opening of the magazine case, FIG. 17 – 38. The cartridge platform may be released by pressing on to the protruding pins showing through the holes FIG. 17 – 40, therewith releasing the platform.

During the firing unloading action of the weapon the ammunition is carried upwards by the spring within the telescopic device, FIG. 27 – 56 (or spring FIG. 28 – 38 or external spring FIG. 32 – 66) towards the bolt. The platform can extend beyond the magazine case 38 or 63, if required, due to the controlled telescopic length, FIG. 18 – 42. The extension length may be controlled alternatively by means of a cord FIG. 29 – 58, chains, folding links and/or by other means.

The cartridge platform locking devices may be dispensed with 45, 49, as it is possible to press the ammunition loading device into the cases 38, 63, while, at the same time, inserting it into the rifle, i.e. in one action the ammunition loading device slides into the case, while the magazine is inserted into the rifle.

The loading device may be closed by closures of the plug and cap type or by a combination of both, FIG. 26 – 55 and FIG. 25 – 54. Closures may be water and/or airtight and may be of such shape and form as to indicate in which direction the cartridge has been packed.

What has been said above is in principle also applicable to the larger magazine illustrated in FIGS. 32, 32 and 34.

A summary without repeating details is given below:

FIG. 31: The container case. 62 are windows, 63 the magazine case proper, 64 guides.

FIG. 32: The telescopic device.

65 the cartridge platform with long sides in order to permit it being raised above the case level, but not beyond such height that it is not guided by the case 63. This height is so adjusted that the bolt picks up the last cartridge, which in turn is determined by the rifle design and by the design of the magazine lips FIG. 30 – 61 etc.

66 the external spring.

67 the telescopic extension device.

68 the base plate.

FIG. 33: The outer base plate 69 with locking hole 70.

In FIG. 31 the position and locking slots for 68 and 69 are not indicated.

FIG. 34: The packing and loading device 73 is a plastics (or otherwise) packing and loading device with guides 72 and spring-back protrusions 71.

In order to be able to load these devices into the magazines from the top, and as these internal packing and loading devices may or may not have lips (61) then these lips if not provided for in the weapon, may be provided for in a separate unit which can be attached to the magazine or installed in the weapon. Such a unit is shown in FIG. 30. It has stops and guides 59 and 60 and lips 61, etc. The unit may be made from e.g. steel, hard chromed, etc. so as to stand up to wear and tear. These lips when within the rifle are protected from damage — which is not the case in the ordinary magazine, in which the lips are damaged readily during handling, dropping, insertion, etc. Loading and packing devices for belts as well as for loaded belts:

FIGS. 35, 36 and 37 illustrate the packing and loading device as well as the packing and loading device as a means for storing the loaded belt(s).

The device consists of a lid 74 and a bottom 75.

By means of this packing and loading device it is possible to receive the ammunition well protected, dust and dirt free before loading the belt and storing the loaded belt.

To illustrate this device reference is made to FIGS. 35, 36 and 37.

To execute the loading operation the lid 74 is removed from the bottom 75. The bottom now contains the cartridges in the desired (close) packing arrangement with the projectiles pointing upwards. The belt 76, 77 is placed over the cartridges and is pushed downwards over the cartridges by means of the lid, 74. The bottom 75 is so designed that it can accommodate the belt clip fingers 76 in recesses along the cartridges. By removing the lid and turning the bottom upside down the loaded belt may be dropped out, FIG. 37.

Alternatively, the lid may be supplied with a loose plate with holes 79 (FIG. 36 and 35) which can be removed after having pressed the belt home. In FIG. 37 after removing this plate 79 a recess is left in the lid 74, which can accommodate the loaded belt.

The plate 79 may be loose, integral or attached to the lid 74. This plate may also be used to serve as a wear resisting plate if the packing and loading device material is subject to wear.

Provision may be made for locating the cartridges more securely by the use of soft pads 78, or a closely shaped fitting.

In one form the packing and loading and storage device is made to accommodate more than one belt.

The device may be made of a suitable plastics or otherwise. It may have seals incorporated, alternatively, it may be sealed by tapes, etc.

Drum magazines may also be loaded by containers in accordance with this invention, suitably adapted for this purpose. A plastic strip may be fed in with the cartridges and at a position inwards of the loading mouth the strip may be discharged out of a port in the drum side.

LARGE PACKING UNIT

This unit is not illustrated as the details are relatively easy to explain.

All the packing and loading devices in one form or another may be packed into larger plastic packing units. Use may be made of plastics hinges, strips in order to lift the closely placed packing and loading devices when unpacking, handles may be fitted, seals may be fitted, etc.

These plastic containers permit visible inspection, so as to ascertain if they are full or empty.

The container may incorporate camouflage colours.

The packing and loading devices and the magazines may comprise all the features described above wherever applicable, desired or required.

What I claim is:

1. Ammunition containers adapted both for packaging and for loading ammunition which comprise two elongate spaced apart parallel formations, one formation adapted to embrace nose ends and one formation adapted to embrace head ends of rounds of ammunition, both formations adapted to hold the rounds in single column and both formations adapted to frictionally engage every round, and a mouth formation which joins the two elongate formations together at one end

of the two formations rigidly, which is adapted to fit onto and over embracing the feed lips of a magazine, so as to locate the elongate formations relative to the feed lips of the magazine to facilitate feeding the rounds nose-to-nose in the correct direction into the magazine by virtue of detent formations inside the mouth which coact with the magazine only in the correct position, and in which two side walls of the mouth formation adjacent to the space between the two elongate formations are recessed to below a region of the interior of the mouth formation which forms an end stop against which the feed lips of the magazine will bear, to facilitate feeding also the last round into the magazine.

2. Ammunition containers according to claim 1, in which parts of the two elongate formations which frictionally engage the rounds are formed to a number of indentations corresponding to the number of rounds to be held and appropriately spaced so that each indentation suitably embraces one round.

3. Ammunition containers according to claim 1, comprising a first arrangement of elongate formations and mouth formation as claimed in claim 1 and a second arrangement of elongate formations and mouth formation as claimed in claim 1, all the elongate formations being parallel and fixed together contacting over a major portion of their lengths, the mouth formation of the first arrangement facing in a direction opposite to a direction in which the mouth formation of the second arrangement faces.

4. Ammunition containers according to claim 1, each comprising a cord fixed to one of the side walls of the mouth formation at one end of the cord, extending substantially parallel to the elongate formations from the position of fixing to a position for a round which is most remote from the mouth formation, the cord adapted to be passed over that round and for a free end of the cord to be pulled towards the mouth formation so as to permit ejecting rounds from the containers.

5. Ammunition containers according to claim 1 each comprising an internal member located in a space between the two elongate formations, having a surface adapted to transmit a force onto rounds in the container to permit ejecting them, and having external members on either side of the container fixed to the internal member and adapted to be grasped to permit exerting the force to eject the rounds.

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