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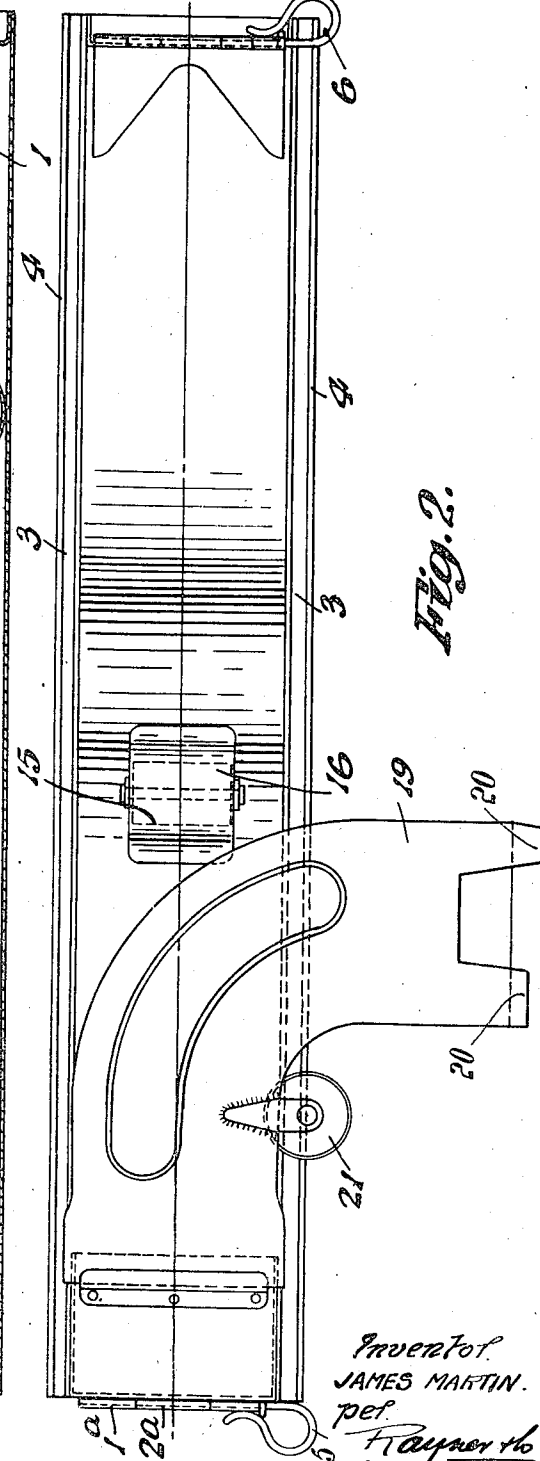
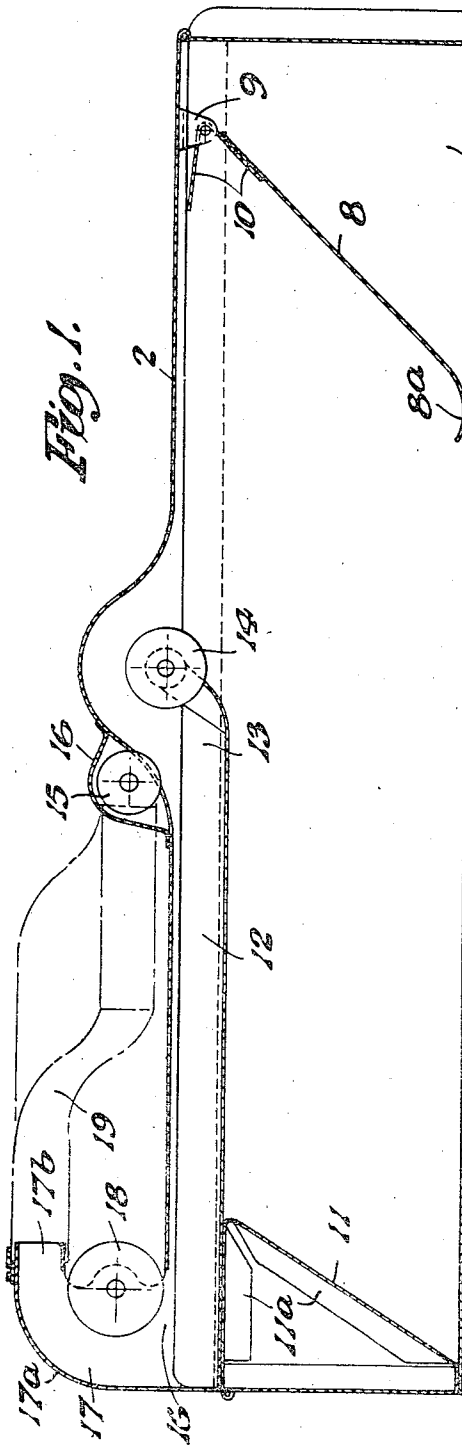
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AMMUNITION BOX FOR MACHINE GUNS

Filed April 18, 1942

2 Sheets-Sheet 1



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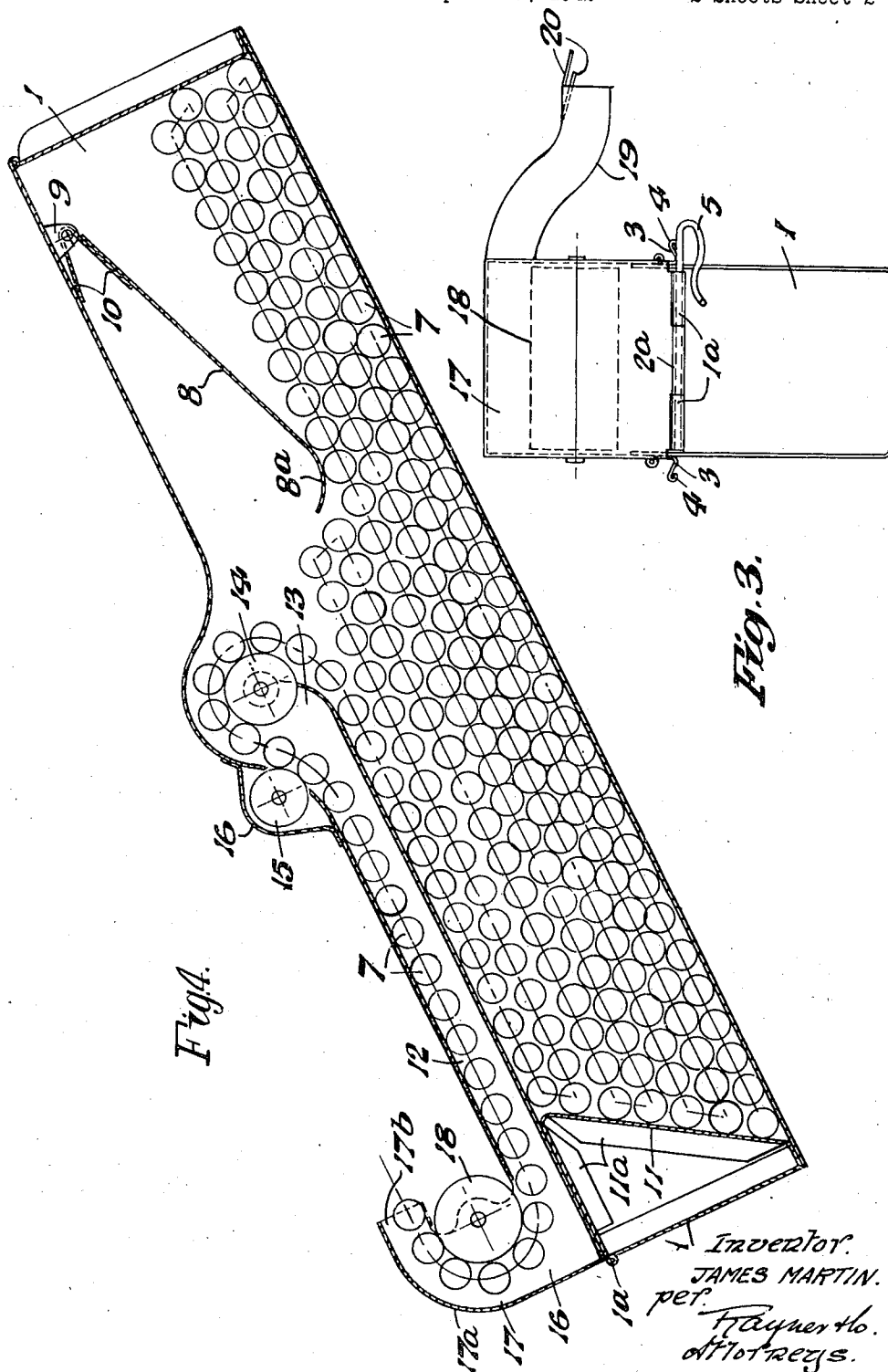
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AMMUNITION BOX FOR MACHINE GUNS

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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AMMUNITION BOX FOR MACHINE GUNS

James Martin, Higher Denham, near Uxbridge,
EnglandApplication April 18, 1942, Serial No. 439,546
In Great Britain November 9, 1938

5 Claims. (Cl. 89—34)

This invention relates to an ammunition box or magazine for machine guns and is primarily intended for use with machine guns mounted in aircraft, but suitable for other purposes where it is required to minimise space for ammunition or to operate guns from remote control. The invention is particularly applicable for use where a number of machine guns are mounted close together side by side in the wings or other suitable parts of an aeroplane.

An example of a suitable construction of ammunition box for machine guns according to this invention will now be described with reference to the accompanying drawings wherein:

Fig. 1 is a sectional side elevation view.

Fig. 2 is a plan view.

Fig. 3 is an end elevation view, and

Fig. 4 is a sectional side elevation view showing the box in use.

Referring to the drawings, the ammunition box or magazine shown is particularly suitable for use with machine guns in aeroplane wings and other locations where a large number of cartridges are to be accommodated in proximity to a gun to be supplied, and in which it is desirable to utilise the minimum of space for this purpose. The box comprises a rectangular trough 1 of sheet metal or other suitable material closed at its top by a tray-like lid 2 adapted to be firmly secured to the box and formed on the lower edges of its side walls with two longitudinal flanges 3 with beaded free edges 4 to afford handles for lifting the closed box. The lid is preferably secured by a pair of transverse pins 5 and 6 slidably engaged in co-operating aligned tubular parts 1a and 2a on the ends of the box and lid respectively. This enables the lid to be swung up about either end of the box by selecting the pin to be removed from the end of the lid which is to be swung upwards.

The box 1 is arranged of a size to accommodate a considerable number of layers of cartridges 7 by folding the belt or strip of cartridges backwards and forwards along the length of the ammunition box. In one example seven or eight such layers may be accommodated thus providing for approximately 250 to 300 rounds of ammunition. In order to prevent the ammunition from piling up at one end of the ammunition box and thus interfering with the free feed of the machine gun, one or more suitable retaining devices is or are provided in the ammunition box or magazine. Such retaining devices may comprise a hinged or pivoted flap 8 suitably loaded so that its free end will be pressed upon the upper layers of the belt or strip of ammunition.

Each retaining flap may be pivoted at or near one end, preferably to the lid of the ammunition box as by means of lugs 9 on the lid, and may be spring loaded, e. g., by a torsion spring 10 so that its free end will be resiliently pressed upon the upper layer of the strip or belt of ammunition. The free end of the retaining flap may be suitably curved as at 8a, or otherwise shaped so as to permit the strip or belt of ammunition to move freely past it in the direction of the length of the strip or belt. In one or both ends of the ammunition box may be provided a suitably inclined deflector plate 11 or alternatively the end or ends of the ammunition box may themselves be inclined at a suitable angle. This deflector plate, which may be a V shaped strip secured to the box 1 by flanges 11a, is inclined downwards forwardly at the front end of the box and is about 60° in relation to the lid so that it maintains the cartridges uniformly staggered along the box. This prevents the cartridges from piling up haphazardly when the aeroplane is diving or effecting steep manoeuvres. In Fig. 4 the box is shown inclined to illustrate this feature.

The ammunition box or magazine is provided with a suitable lid preferably hinged at or near one end so that it may be raised to give access to the interior of the ammunition box or magazine for the purpose of loading it with a strip or belt of ammunition or for inspection of the ammunition already therein. A shallow compartment or channel 12 through which the strip or belt of ammunition is fed from the box or magazine is formed in or mounted upon the inner face of the lid of the box. The entry 13 from the ammunition box or magazine to this shallow compartment or channel is preferably arranged at or near the centre of the length of the box and suitable roller 14 or other antifriction device is arranged at the point of entry to the channel and another roller 15 contacts with the upper side of the line of cartridges just in front of the roller 14. This upper roller 15 can be housed in a transverse channel section cover plate 15a fixed to the lid in juxtaposition to a part cylindrical mound in the lid which is concentric with the roller 14 and spaced from such roller a distance slightly greater than the maximum diameter of a cartridge. If desired the roller 14 can be grooved to accommodate the flanges at the bases of the cartridge cases, and also if desired the rollers may be slightly coned to correspond approximately with the taper of the cartridge cases and bullets.

The lid is formed with an outlet opening 16 at its front end, such opening being covered by

a hood or funnel 17 in which the line of cartridges is reversed in direction of travel by being drawn over a roller 18 in the hood or funnel 17 and concentric with an arcuate corner 17a of the hood or funnel. This roller 18 may be grooved and/or tapered as proposed in connection with the roller 14.

The hood or funnel 17 has an oblong section outlet mouth 17b through which the cartridges may be drawn directly to the gun, or if desired this mouth can receive as a push-on fit the rear end of an arcuate oblong section chute 19 whereby the cartridges can be traversed through substantially a right angle and be delivered to the gun breech individually parallel and in alignment with the axis of the breech. This has the advantage that the box 1 can be located close alongside the gun and located in a plane parallel with the axis of the gun barrel, thereby obviating a laterally extending magazine, this being desirable where a number of guns are to be located close to each other. The outer end of the curved chute is formed with clips or lugs 20 to engage with the appropriate part of the gun.

The chute 19 is preferably curved downwardly swan-neck fashion beyond the adjacent side wall of the box 1, as shown in Fig. 3 to ensure an easy and smooth surface for the cartridges to travel along, and one or more rollers 21 is, or are, provided at the inner bend of the chute to form an abutment or abutments for the points of the bullets, the cartridge case flanges travelling close to the larger radius bend of the chute.

When the lid of the ammunition box or magazine is turned about its hinge at one end the whole of the interior of the ammunition box or magazine will be readily accessible and the entry to the shallow compartment or channel will also be readily accessible for threading one end of the strip or belt of ammunition into it. By detaching the curved chute the strip or belt of ammunition may be drawn through the shallow compartment or channel and then passed through and around the curved chute which is then secured in position to the outlet end of the channel. The free end of the strip or belt of ammunition is then available for feeding to the magazine of the machine gun.

I claim:

1. An ammunition box for machine guns and the like comprising a box, shaped and adapted to lie entirely along and close to one side the gun and also adapted to accommodate the cartridges in a belt so that they lie across the box transverse to the axis of the breech, a removable lid fitted to the top of the box, said lid being provided with an upstanding transverse cartridge outlet member near one end thereof through which the cartridges are drawn from the box to the breech of the gun, and a substantially horizontal cartridge guide member of shallow oblong cross section extending towards the other end of the lid, said bent cartridge guide member being bent through about 90° so as to extend as a shallow, oblong cross-section, part annular, projection laterally beyond one side of the box towards the gun breech at a position between the ends of the box and to feed the cartridges into the breech parallel with the breech axis, said shallow oblong cross section guide and lateral extension thereof being dimensioned to accommodate a single layer of cartridges arranged transversely therein.

2. An ammunition box for machine guns and

the like comprising a box shaped and adapted to lie close alongside the gun and also adapted to accommodate the cartridges in a belt so that they lie across the box transverse to the axis of the breech, a removable lid fitted to the top of the box, said lid being provided with a transverse outlet opening through which the cartridges are drawn from the box to the breech of the gun, a spout-like extension carried by the lid and positioned to receive the cartridges as they are drawn through said outlet opening, said spout-like extension standing upwardly from one end of the lid and projecting substantially horizontally close to the top of the box towards the other end thereof, and a part annular tubular guide member fitted at one end to said spout-like extension for guiding the cartridges, with the cartridges substantially radiating from the smaller radius bend of the part annular guide to the gun breech mechanism so as to deliver the cartridges from its other end to the gun breech parallel with the axis of the breech at a position between the ends of the box.

3. An ammunition box for machine guns and the like comprising a box adapted to be located in fixed relationship entirely along and close to the gun so as to extend substantially parallel with the gun barrel and adapted to accommodate a plurality of superposed lines of cartridges arranged in belt or flexibly linked-up form extending backwards and forwards within the box, a substantially longitudinal shallow channel outlet guide extending along the upper part of the box and forming an outlet for cartridges to be fed from the box to the gun and directly communicating at one end with the interior of the box at a point approximately midway between the ends of the box, a spout-like outlet member at the other end of said channel projecting upwards from one end of the box and bent towards the other end of the box, anti-friction member at the ends of said shallow channel outlet guide over which the belt of cartridges travel, a tubular cartridge guide adapted to be connected at one end to the gun breech and attached at its other end to said outlet member and curved between its ends so as to deliver the cartridges to the gun breech parallel with the axis of the gun breech, and an upper lid fitted on the box and carrying said shallow channel outlet guide, spout-like outlet member and said anti-friction members.

4. An ammunition box for machine guns and the like comprising a box adapted to be located in fixed relationship close alongside the gun so as to extend substantially parallel with the gun barrel and adapted to accommodate a plurality of superposed lines of cartridges arranged in belt or flexibly linked-up form extending backwards and forwards within the box, a substantially longitudinal shallow channel outlet guide extending along the upper part of the box and forming an outlet for cartridges to be fed from the box to the gun and directly communicating at one end with the interior of the box at a point approximately mid-way between the ends of the box, a spout-like outlet member at the other end of said channel projecting upwards from one end of the box and bent towards the other end of the box, anti-friction members at the ends of said shallow channel outlet guide over which the belt of cartridges travel, a tubular cartridge guide adapted to be connected at one end to the gun breech and attached at its

other end to said outlet member and curved between its ends so as to deliver the cartridges to the gun breech parallel with the axis of the gun breech, an upper lid fitted on the box and carrying said shallow channel outlet guide, said 5 spout-like outlet member and said anti-friction members, means to lock the lid to the box, and longitudinal flange like handle parts on the lid for lifting the box.

5. An ammunition box for machine guns and the like comprising a box shaped and adapted to lie close alongside the gun and also adapted to accommodate the cartridges in a belt so that they lie across the box transverse to the axis of the breech, a removable lid fitted to the top of the box, said lid being provided with a transverse outlet member through which the cartridges are drawn from the box to the breech 15 of the gun, a guide member for guiding the cartridges to the gun breech connected at one end 20

to said outlet member in said lid and its other end extending laterally beyond one side of the box for connection to the gun breech mechanism, said guide member being shaped to change the 5 axial direction of the cartridges as they pass therethrough so that they emerge from the guide member parallel with the breech axis, a downwardly and forwardly inclined wall to form the front end of the inside of the box 10 to prevent piling up of cartridges inside the box, a flap member pivoted at one end to the underside of the lid adjacent the other end of the box and means urging the other end of said flap member downwards against the cartridges to 15 maintain the layers of cartridges within the full length of the box for a portion of the depth of the box from the base up to a zone adjacent to the inlet end of said guide.

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