Dec. 22, 1942. G. C. BRENTNALL 2,305,667

GUIDEWAYS FOR MACHINE GUN AMMUNITION BELTS

Filed Nov. 22, 1940

Fig. 1.

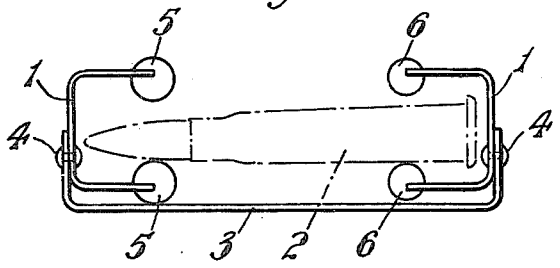


Fig. 2.

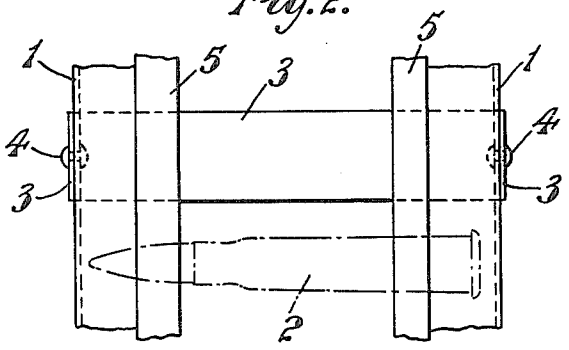
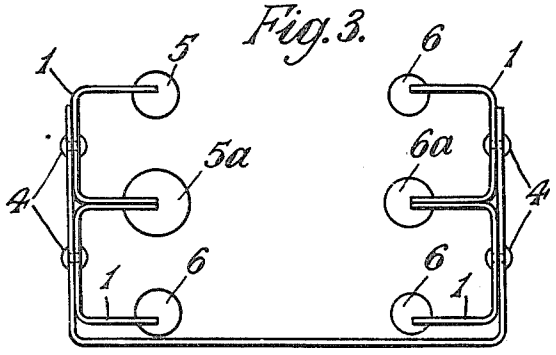


Fig. 3.



Inventor
Geoffrey Charles Brentnall
by Benj. T. Rauber
his attorney

Patented Dec. 22, 1942 2,305,667

UNITED STATES PATENT OFFICE

2,305,667

GUIDEWAY FOR MACHINE GUN AMMUNITION BELTS

Geoffrey Charles Brentnall, Erdington, Birmingham, England, assignor to Dunlop Rubber Company Limited, London, England, a British company

Application November 22, 1940, Serial No. 366,630
In Great Britain November 10, 1939

7 Claims. (Cl. 89—33)

This invention concerns improvements in or relating to guideways or tracks for machine gun ammunition belts, particularly for use with machine guns on aircraft, and of the kind in which said guide or track comprises guide members of channel section operatively spaced apart with their open sides facing one another.

The present invention provides a track or guideway which is of simple construction, cheap to produce and which enables the ammunition belt to be fed at high speed with a minimum of friction and noise.

According to the present invention, I provide a guide or track for belts of machine gun ammunition of the kind in which said guide or track comprises guide members of channel section operatively spaced apart with their open sides facing one another and to each edge of which is secured a separately formed bead of non-metallic material constituting a contact surface for said ammunition.

These beads may be formed of vulcanized rubber composition of circular cross-section so that the ammunition slides only on a line or narrow area of the outer curved surface of each bead. The beads may be treated with a lubricant such as graphite to minimize friction between the ammunition and its supporting surface, such lubricant being applied to the external surface of the beads or being incorporated in the rubber mix from which the beads are formed, or both.

The various features of my invention are illustrated, by way of example, in the accompanying drawings, in which, Fig. 1 is a sectional view of an ammunition track in accordance with the invention; Fig. 2 is a plan view of a portion of the track shown in Fig. 1, and Fig. 3 is a sectional view of a modification comprising two superposed tracks.

According to the embodiment of Figs. 1 and 2, the guideway or track comprises a pair of guide members 1 formed of lengths of aluminum, or other suitable metal, of U-shaped channel section which are operatively positioned so that their open sides face each other, and so that the distance between the closed faces of the guide is slightly more than the overall length of a round of ammunition 2.

The guide members may be conveniently fixed together by means of metal strip pieces 3, each of channel section as seen in side elevation, the side limbs of these strips being riveted at 4, or otherwise secured to the closed walls of the two opposed channels. These connecting strips 3 are secured to the guide members at suitable intervals throughout the length of the guide.

In order to provide a proper supporting surface for the ammunition as it passes through the guide, the free edges of each channel shaped length of metal are provided with beads 5 and 6, preferably of rounded or circular cross-section, whereby the ammunition makes point contact only with the curved outer surface of the beads, whereby the sliding friction between the ammunition and the track is reduced to a minimum. The beaded edges of the guide members are formed by applying strips of non-metallic material which has preferably been treated with a lubricant to reduce friction still further between the ammunition and its supporting surface.

In the preferred form the beads are formed of hard rubber with which is incorporated graphite, each beading strip being of circular cross-section with a slit passing inwards from one side.

The beading strips are of such a diameter that the distance between the one pair of adjacent beads 5 is greater than the distance between the other pair of beads 6, so that the ammunition will be kept more or less level as it passes along the track, although the diameters of the ammunition at its opposite ends may not be equal.

The bearing strips 5 and 6 may be secured to the free edges of the length of metal of channel section by treating the strips, or such edges, with an adhesive and subsequently subjecting the assembly to pressure by means of a roller or the like, so that the beads are intimately connected to the channel members. The channel lengths of metal with the beads applied thereto may then be placed in a curing chamber and subjected to vulcanization, thereby ensuring strong adhesion between the hard rubber beads and the metal channel. If desired, the free edges of the metal channel may be shaped or roughened to increase the adhesion between the applied rubber and the metal.

In the modification shown in Fig. 3, the track consists of lengths of channel section built up in pairs on each side of the track, one of such lengths being superposed in register with the other on each side of the track, the inner or adjacent limbs 7 being provided at their free edges with single hard rubber beads 5a, 6a, which embrace both limbs of the superposed channels.

Having described my invention, what I claim is:

1. A guide or track for belts of machine gun ammunition of the kind described comprising a pair of metal guide members of channel section

spaced in parallel with the open side of one channel facing the open side of the other, means securing said channel sections in spaced positions and separately formed strips of non-metallic material covering the edges of said channel members and constituting contact surfaces of said ammunition.

2. A guide or track according to claim 1 wherein said strips are formed of vulcanized rubber of circular cross-section.

3. A guide or track according to claim 1 wherein said strips are positioned on said lengths of metal by means of slits formed in said strips, in which slits the edges of the guide members are embedded.

4. A guide or track according to claim 1 wherein a lubricating agent such as graphite is incorporated in the composition from which the strips are formed.

5. A guide or track according to claim 1 wherein said guide members comprise lengths of metal which are provided with strips of greater diameter on one side of the track than the other.

6. A guide or track according to claim 1 wherein said strips are bonded to said guide members by vulcanization.

7. A guide or track for belts of machine gun ammunition of the kind described comprising a plurality of pairs of metal guide members of channel section, each pair comprising two guide members spaced in parallel with the open side of one channel facing the open side of the other and one of said pairs of guide members being superposed directly on the other with means for securing said channel sections in spaced positions and for securing one pair of said channel members on the other and separately formed strips of non-metallic material covering the edges of said channel members and constituting contact surfaces for said ammunition and having a common strip covering the superposed edges of said channel members.

GEOFFREY CHARLES BRENTNALL.