Aug. 26, 1947. R. S. SANFORD ET AL 2,426,527

CARTRIDGE BELT LINK

Filed June 28, 1944 2 Sheets-Sheet 1

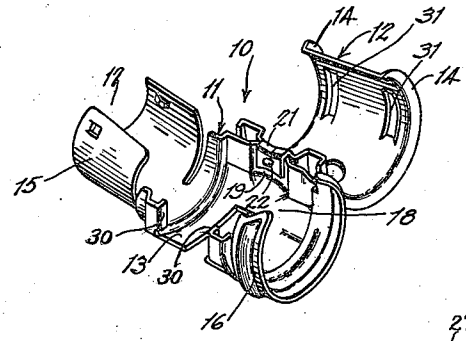


Fig. 1.



Fig. 10

Fig. 2.

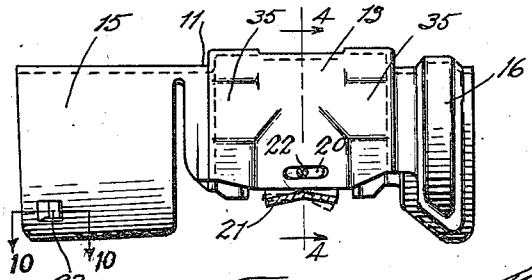


Fig. 3.

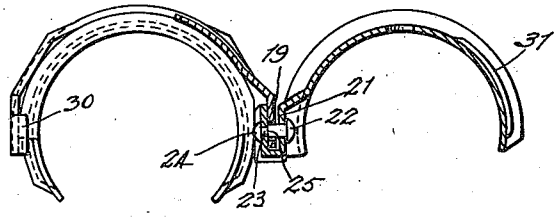


Fig. 4.

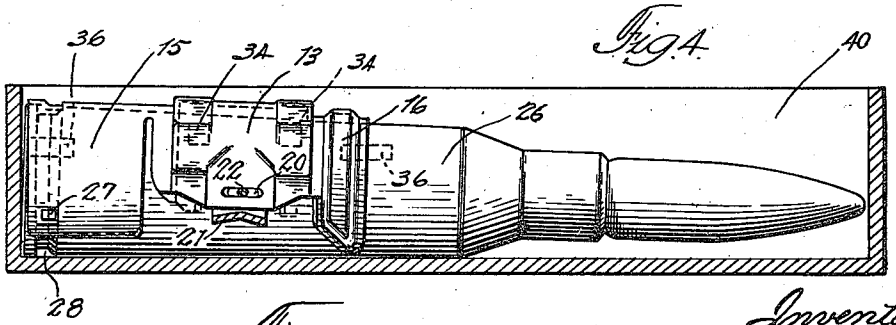


Fig. 5.

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CARTRIDGE BELT LINK

Filed June 28, 1944 2 Sheets-Sheet 2

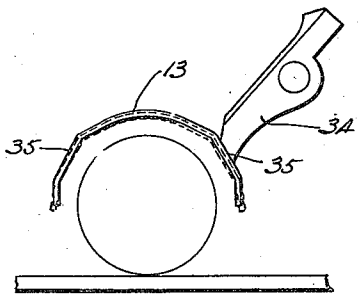


Fig 6

Fig. 7.

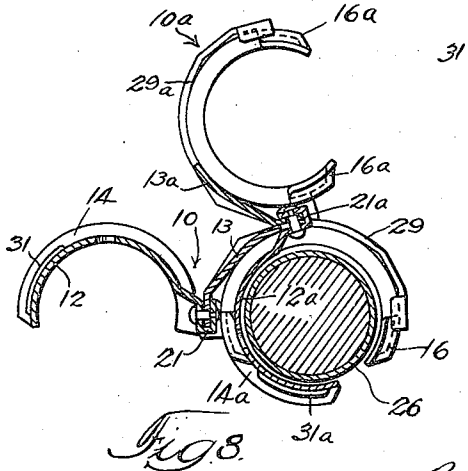


Fig. 8.

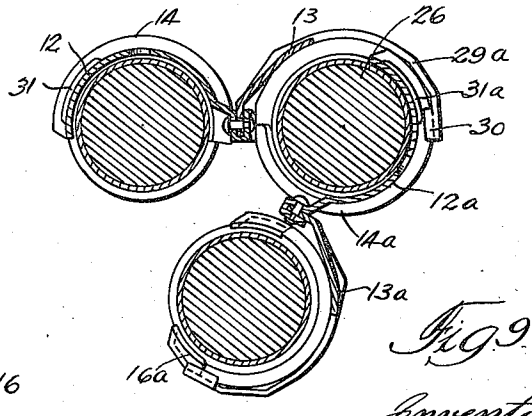


Fig. 9.

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2,426,527

CARTRIDGE BELT LINK

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Application June 28, 1944, Serial No. 542,559

11 Claims. (Cl. 89—35)

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This invention relates to cartridge belt links, more particularly to links of the push-through type, and the invention has for an object the provision of improved cartridge belt links and cartridge belts of this character.

Various types of cartridge belt links for feeding ammunition to machine guns and automatic cannon have heretofore been provided wherein the cartridges themselves form the hinge pins or pintles between the adjacent links of the belt. In one well known type of link a pair of spaced apart, axially aligned cartridge-receiving loops are disposed on one side of a supporting member or bridge, and a single hinge loop extends from the other side of the bridge at a point opposite the space between the aligned loops. In assembling the cartridge belt the single hinge loop of one link is placed between and in alignment with the two spaced loops of the next link, and a cartridge is then inserted through the three aligned loops. In order to retain the cartridges in the belt during the feeding operation, the two aligned loops of each link are formed so that one or both of these loops tightly and frictionally engage the cartridge extending therethrough.

In order to provide for feeding of the cartridge belt along circuitous paths and around various guide and feed rollers, and to permit the complicated and substantially universal movements through which the gun may be manipulated during firing, the cartridge belt must be capable of twisting, flexing and curving in various directions under various feeding and firing conditions. The necessity of such flexibility has heretofore been recognized, and various expedients have been adopted in links of the above described character in order to provide the necessary flexibility. As is well known, however, the feed mechanisms of modern machine guns and automatic cannon are, in substantially all cases, of such a character that the cartridge belt is advanced during the feeding operation in short rapid steps so that each of the cartridges in turn will be moved to a desired loading position. Obviously such intermittent movement, consisting of short sharp jerks, will impose on the belt heavy loads which tend to stretch the belt. Also, such intermittent movement tends to take up any clearance which may exist between the cartridges and the loops of the links and thus varies the spacing or pitch distance between the successive cartridges. Any excessive variation in the pitch distance between cartridges is fatal to the proper operation of the

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machine gun or automatic cannon and, particularly in aircraft where servicing under battle conditions is difficult if not impossible, it is imperative that the cartridge belt be so constructed as to not only be capable of the necessary flexing and twisting, but that it also be capable of maintaining the pitch distance between adjacent cartridges within the necessary limits under the strains and stresses imposed by the feeding mechanism and the additional strains and stresses which may be imposed on the belt by high speed maneuvering of the aircraft.

As a consequence of certain recent improvements in machine guns or automatic cannon, improved cartridges have been developed in which the cartridge case is formed with a large taper so that the diameter of the case decreases substantially from the rear or firing end toward the front or projectile-receiving end. In addition, the improved guns designed to operate with such cartridges have been provided with loading mechanisms of the push-through type, so that the cartridges are loaded from the belt into the gun by pushing the cartridge forwardly through the links and into the breech of the gun. Due to the use of tapered cartridges of the above-indicated character in guns having a loading mechanism of the push-through type, difficulties have been encountered in the provision of suitable cartridge belt links. Obviously the single loop of the link must be of large enough diameter to permit the large rear end of the cartridge to pass therethrough, and since the portion of the cartridge normally surrounded by the single loop is of much smaller diameter than the rear end of the cartridge, it will be clear that a large clearance would exist between the single loop and the cartridge during feeding of the belt. Consequently, if the cartridges themselves are used as the hinge pins or pintles, so much play or slack would be introduced into the belt as to render substantially impossible the maintenance of a fixed pitch distance. It is accordingly a further object of this invention to provide an improved cartridge belt link and belt for use with cartridges and feeding mechanism of the above character.

In carrying out the invention in one form, a cartridge belt link is provided which is adapted to cooperate with other similar links to form a disintegrating cartridge belt, each link being constructed to provide a first cartridge-receiving part having a substantially semicylindrical portion forming an internal arcuate track, and a second part having a substantially semicylindri-

cal portion disposed in side-by-side relation to the internal track portion, with the open sides of the two portions facing in the same direction. Means are provided for interconnecting the adjacent edges of the two portions to hold the two parts of the link in laterally fixed relation, and in assembling the belt the semicylindrical portion of the second part of one link is disposed in nesting relation within the internal track portion of the first part of an adjacent link. The part of the link having the internal track portion also includes means disposed in axial relation to the internal track portion for supporting a cartridge with a portion of the cartridge extending across the track portion through the nesting portion so as to maintain the adjacent links in assembled relation, the nesting portion of one link being arcuately movable in the internal track to permit flexing of the cartridge belt.

Preferably, the interconnection between the two parts of each link is so formed as to permit relative twisting or tilting movement of the two parts, and since the nesting portion of each link is arcuately movable in the track portion of an adjacent link, the belt thus formed is capable of twisting, flexing or curving in various planes. The external diameter of the nesting portion is substantially equal to the internal diameter of the track portion so that lateral movement between adjacent links is prevented by the interengagement of these portions in nesting relation.

The cartridge supporting means on the part of the link forming the internal track preferably comprises a clamping portion disposed axially of of the track for frictionally engaging the enlarged rear end of a tapered cartridge, and a guide portion having an internal diameter greater than the diameter of the large end of the cartridge is provided on the opposite side of the track portion for limiting tilting movement of the front end of the cartridge about its point of support in the clamping portion.

For a more complete understanding of the invention, reference should now be had to the drawings in which:

Fig. 1 is a perspective view of a cartridge belt link embodying this invention, looking at the link from the bottom side thereof;

Fig. 2 is a top plan view of the link shown in Fig. 1;

Fig. 3 is an elevational view of one part of the link showing the second part in section only, the section being taken along the line 3—3 of Fig. 2;

Fig. 4 is a sectional view through the link taken substantially along the line 4—4 of Fig. 3;

Fig. 5 is a side elevational view of a link and cartridge disposed within the feedway of a gun;

Fig. 6 is a somewhat diagrammatic view showing the manner in which feed pawls may engage the links to move the cartridges along the feedway;

Fig. 7 is a bottom view of a plurality of links assembled to form a belt, one of the cartridges being shown in broken lines; and

Figs. 8 and 9 are sectional views similar to Fig. 4 but viewed from the opposite direction showing two assembled links and illustrating the extreme positions to which the links may be moved by arcuate movement of the nesting portion of one link in the internal track portion of an adjacent link.

Fig. 10 is a somewhat enlarged sectional view taken substantially along lines 10—10 of Fig. 3.

Referring now to the drawing, the invention

is shown as embodied in a cartridge belt link 10 comprising separately formed parts 11 and 12 which are interconnected in laterally fixed relation as will be more fully described hereinafter. The part 11 includes a centrally disposed substantially semicylindrical portion 13 forming an internal track for receiving in nesting relation the part 12 of an adjacent link, as shown in Figs. 7, 8 and 9, the part 12 also being substantially semicylindrical and having outstanding flanges or runners 14 on the opposite sides thereof for engaging the internal track portion 13 of an adjacent link.

In addition, the part 11 includes a clamping or supporting portion 15 which is shown as being integral with the portion 13 and comprising oppositely disposed arcuate resilient fingers separated from the track portion 13 by arcuately extending slots. Also formed integrally with the track portion 13 on the opposite side thereof from the clamping portion 15 is a guide portion 16 which is embossed throughout the greater portion of its length to provide a radially rigid structure. The portions 15 and 16 extend throughout a greater arc than the semicylindrical track portion 13, but the arcuate fingers which form the parts 15 and 16 have the ends thereof in spaced relation on the bottom of the link to define stripper-receiving slots 17 and 18 in alignment with the open side of the track portion 13 so that the stripper or bolt engaging the rear end of a cartridge may move throughout the length of the link to expel the cartridge in a forward direction. The respective widths of the slots 17 and 18 are less than the respective diameters of the portions of the cartridges to be encircled by the portions 15 and 16 so as to prevent lateral movement of the cartridges out of the links.

In order to interconnect the parts 11 and 12 in laterally fixed relation while permitting relative twisting and tilting movement between the parts to obtain the desired flexibility of the belt, a pin and slot connection is provided. Thus, the track portion 13 is bowed outwardly adjacent one edge to form an axially arcuate edge portion 19, and an axially extending slot 20 is formed therein. Extending from one edge of the part 12 is a finger or hook portion 21 which is of axially arcuate construction and which is adapted to hook over the arcuate edge portion 19 so that a pin or rivet 22 carried by the hook portion 21 extends through the slot 20 to interconnect the parts 11 and 12. Relative tilting movement of the parts 11 and 12 is permitted by the arcuate formation of the hook 21 and the edge portion 19, the pin 22 moving along the axial slot 20. One extreme tilted position of the part 12 is shown in broken lines in Fig. 2.

Twisting of the parts 11 and 12 relative to each other is permitted by rotation of the pin 22 in the slot 20, as shown best in Fig. 3, the yoke of the hook portion 21 being tapered outwardly from the center thereof to permit the desired amount of twisting movement. Although any suitable pin or rivet may be employed, the pin 22 is preferably constructed as shown best in Fig. 4.

As shown, the shank of the rivet 22 is provided with a reduced end portion 23 which extends through the outer leg of the hook portion 21 and when the extending end of this reduced portion 23 is upset, this outer leg of the hook portion 21 will be rigidly secured between the upset head 24 and a shoulder 25 on the shank of the rivet. The length of the main shank portion of the rivet which extends through the slot 20 and

through the inner leg of the hook portion 21 is such that a slight clearance is left between the inner leg and the head of the rivet. Accordingly, when lateral forces are exerted on the parts 11 and 12 the edge portion 19 on part 11 will pull against the outer leg of the hook 21 and tend to flex this leg before any shear stress is exerted on the heads of the rivets. Only if the outer leg is flexed sufficiently to take up the clearance between the inner leg of the hook and the adjacent head of the rivet will the rivet be subjected to shear stress. Thus a stronger construction is obtained than if a conventional rivet were used and all of the lateral stresses were imposed on the rivet.

In order to assemble the links and the cartridges to form a belt it is necessary only to nest the part 12 of one link within arcuate track 13 of a second link and insert a cartridge 26 into the assembled links from the rear end thereof. The cartridge 26, as previously indicated, has a substantial taper and the resilient fingers 15 of the part 11 are so spaced as to frictionally grip the rear end of the cartridge casing when the cartridge is inserted. To guard against accidental displacement of the cartridges from the links during feeding of the belt, the fingers 15 are provided with forwardly facing, inwardly extending lugs 27 adapted to snap into the extractor groove 28 of the cartridge when the cartridge reaches its proper position within the links. The lugs 27 slope inwardly toward the forward end of the link, as shown best in Fig. 10, and the fingers 15 and the lugs 27 have sufficient resilience so that the lugs will not prevent forward movement of the cartridges (due to the rear edge of the extractor groove 28 catching on the lugs) from the belt under the force exerted by the stripper or bolt of the gun. Rearward movement of the cartridge will be prevented by the relatively square forward edge of the lugs engaging the forward edge of the extractor groove.

Since, as shown best in Fig. 7, the fingers of the portions 15 and 16 extend more than half way around the cartridges, lateral movement of the cartridges out of the belt and consequently lateral movement of the nesting parts 12 out of the track portions 13 of the adjacent link is prevented. The nested parts 12, however, are free to move arcuately in the track portions so as to permit the desired flexing or curving of the belt in a plane at right angles to the axes of the cartridges. In Fig. 7 the links 10, 10*a* and 10*b* are shown in the straight line relation which they assume as they pass through the feedway 40 (Fig. 5) of the gun, and it will be observed that the open sides of the portions 12 and 12*a* are respectively aligned with the slots 17*b* and 18*b* of the link 10*b* and the slots 17 and 18 of the link 10 so that a stripper or bolt may move through the links to eject the cartridges in a forward direction.

The respective internal diameters of the nesting part 12 and the guide portions 16 of each link are large enough to permit free axial movement of the large end of the cartridges therethrough when the cartridges are pushed forwardly out of engagement with the clamping portions 15. Consequently, substantial clearance exists between the portions 12 and 16 and the respective parts of the cartridge which extend therethrough when the cartridges are in their normal position shown in Fig. 7. The clearance between the cartridge and the nesting part 12, however, does not produce lateral play in the belt because the

lateral positions of the adjacent links are determined by the engagement of the runners 14 on the nesting part 12 with the internal track 13, the cartridge merely serving to maintain the nesting relation. As soon as the cartridge is pushed from the belt the nesting part 12 is free to drop out of the track 13 and consequently the belt is of the disintegrating type.

In order to permit flexure of the belt by arcuate movement of the nested parts 12 in either direction from the straight line position shown in Fig. 7, the track portions 13 are respectively provided with slots 29 extending inwardly from the edge thereof opposite the pin and slot connections. In Fig. 8 the links 10 and 10*a* are shown with the link 10*a* rotated through an angle somewhat in excess of 90° in a counterclockwise direction from the straight line position of Fig. 7. To effect this movement the nested portion 12*a* has moved arcuately in the track portion 13 and the pin and slot connection of the link 10*a* has moved through the slot 29 in the link 10.

In Fig. 9 the same two links are shown with the link 10*a* rotated in a clockwise direction from the position of Fig. 8, the pin and slot connection of the link 10*a* having moved out of the slot 29 and across the open side of the track portion 13 of the link 10. Since the part 12*a* and the portion 13 of the links 10*a* and 10, respectively, are substantially semicylindrical and since a substantial clearance exists between the part 12*a* and the portion of the cartridge extending therethrough, the part 12*a* might under some conditions drop out of the track 13 when the links assume the position of Fig. 9. In order to prevent any such separation of the links, each of the track portions 13 is provided, adjacent the open end of the slot 29, with internal ears 30, and each of the parts 12 is provided, adjacent its free end, with outwardly extending embossments 31. When the links are rotated to the position shown in Fig. 9 the ears 30 engage the embossments 31*a* and shift the part 12*a* so that its free end moves toward the encircled cartridge to take up the clearance and prevent the links from separating.

Although any suitable feeding mechanism may be provided for advancing the cartridge belt so as to bring the cartridges successively into loading position in the gun, the improved links embodying this invention are particularly designed for use with feed mechanisms having a plurality of feed pawls adapted to successively engage the links and move them along the feedway. In Fig. 6 one such feed pawl 34 is shown diagrammatically with its end engaging the outer periphery of the track-forming portion 13, and, in order to insure proper feeding, this track portion is provided with flattened areas 35 on opposed surfaces thereof so that feeding of the links in either direction may be accomplished.

In Fig. 5 two feed pawls 34 are shown diagrammatically to illustrate their relation to the links, see also Fig. 6, and in addition a pair of holding pawls 36 are shown (Fig. 5) which function to hold the cartridge belt against rearward movement during retraction of the feed pawls for the next forward step. It will be observed that the feed pawls 34 are so spaced as to engage the flattened portions 35 on the track portion 13 of the link.

While we have shown particular embodiments of our invention, it will be understood, of course, that we do not wish to be limited thereto since many modifications may be made, and, we, there-

fore, contemplate by the appended claims to cover any such modifications as fall within the true spirit and scope of our invention.

Having thus described our invention, what we claim and desire to secure by Letters Patent is:

1. A cartridge belt link adapted to cooperate with other similar links to form a disintegrating cartridge belt, said link comprising a first part having a substantially semicylindrical portion forming an internal arcuate track, a second part having a substantially semicylindrical portion disposed in side-by-side relation to said internal track portion with the open sides of said portions facing in the same direction, one of said portions having an axially arcuate edge portion and the other of said portions having an axially arcuate finger extending from the adjacent edge thereof in juxtaposition to said arcuate edge portion, means connecting said arcuate edge portion and said arcuate finger, said connecting means including an axially directed slot in one of said arcuate edge portion and arcuate finger and a pin extending loosely through said slot and through a hole in the other of said arcuate edge portion and arcuate finger, whereby said parts are restrained against lateral separation and are relatively tiltable by movement of said pin along said slot and are relatively twistable by rotation of said parts with said pin as an axis, said internal track portion having a diameter substantially equal to the diameter of said semicylindrical portion of said second part and thereby being adapted to receive therein in nesting relation a portion of an adjacent link corresponding to said semicylindrical portion of said second part, said first part having means disposed in axial relation to said internal track portion for supporting a cartridge in said first part with a portion of said cartridge extending across said track portion through said nesting portion to prevent movement of said nesting portion out of said track, said nesting portion being arcuately movable in said internal track to permit longitudinal flexing of the cartridge belt.

2. A cartridge belt link adapted to cooperate with other similar links to form a disintegrating cartridge belt, said link comprising a first part having a substantially semicylindrical portion forming an internal arcuate track, a second part having a substantially semicylindrical portion disposed in side-by-side relation to said internal track portion with the open sides of said portions facing in the same direction, one of said portions having an axially arcuate edge portion and the other of said portions having an axially arcuate hook extending from the adjacent edge thereof to fit over said axially arcuate edge portion, means connecting said arcuate hook and said arcuate edge portion, said connecting means including an axially directed slot in one of said arcuate hook and arcuate edge portion and a pin extending loosely through said slot and through a hole in the other one of said arcuate hook and arcuate edge portion, whereby said parts are relatively tiltable by movement of said pin along said slot and are relatively twistable by rotation of said parts with said pin as an axis, said internal track portion having a diameter substantially equal to the diameter of the semicylindrical portion of said second part and thereby being adapted to receive therein in nesting relation a portion of an adjacent link corresponding to said semicylindrical portion of said second part, said first part having means disposed in axial relation to said internal track portion for supporting a cartridge

in said first part with a portion of said cartridge extending across said track portion through said nesting portion to prevent movement of said nesting portion out of said track, said nesting portion being arcuately movable in said internal track to permit longitudinal flexing of the cartridge belt.

3. A cartridge belt link adapted to cooperate with other similar links to form a disintegrating cartridge belt, said link comprising a first part having a substantially semicylindrical portion forming an internal arcuate track, a second part having a substantially semicylindrical portion disposed in side-by-side relation to said internal track portion with the open sides of said portions facing in the same direction, one of said portions having an axially arcuate edge portion provided with an axially extending slot and the other of said portions having an axially arcuate hook portion extending from the adjacent edge thereof to fit over said arcuate edge portion with the opposed legs of said hook on opposite sides of said slot, and a pin extending between said legs of said hook and through said slot whereby said parts are secured in laterally fixed relation and are relatively tiltable by movement of said pin along said slot and are relatively twistable by rotation of said parts with said pin as an axis, said internal track portion having a diameter substantially equal to the diameter of the semicylindrical portion of said second part and thereby being adapted to receive therein in nesting relation a portion of an adjacent link corresponding to said semicylindrical portion of said second part, said first part having means disposed in axial relation to said internal track portion for supporting a cartridge in said first part with a portion of said cartridge extending across said track portion through said nesting portion to prevent movement of said nesting portion out of said track, said nesting portion being arcuately movable in said internal track to permit longitudinal flexing of the cartridge belt.

4. A cartridge belt link adapted to cooperate with other similar links to form a disintegrating cartridge belt, said link comprising a first part having a substantially semicylindrical portion forming an internal arcuate track, a second part having a substantially semicylindrical portion disposed in side-by-side relation to said internal track portion with the open sides of said portions facing in the same direction, one of said portions having an axially arcuate edge portion provided with an axially extending slot and the other of said portions having an axially arcuate hook portion extending from the adjacent edge thereof to fit over said arcuate edge portion with the opposed legs of said hook on opposite sides of said slot, and a pin extending between said legs of said hook and through said slot whereby said parts are secured in laterally fixed relation and are relatively tiltable by movement of said pin along said slot and are relatively twistable by rotation of said parts with said pin as an axis, said internal track portion having a diameter substantially equal to the diameter of the semicylindrical portion of said second part and thereby being adapted to receive therein in nesting relation a portion of an adjacent link corresponding to said semicylindrical portion of said second part, said first part having means disposed in axial relation to said internal track portion for supporting a cartridge in said first part with a portion of said cartridge extending across said track portion through said nesting portion to prevent movement of said nesting portion out

of said track, said nesting portion being arcuately movable in said internal track to permit longitudinal flexing of the cartridge belt, said track portion having a slot extending circumferentially from the edge thereof opposite said arcuate edge and hook portions, said circumferential slot during at least a portion of the arcuate movement of said nesting portion in said track receiving said arcuate edge and hook portions to permit flexure of said belt in either direction from a straight line.

5. A catridge belt link of the push-through type adapted to cooperate with other similar links to form a disintegrating cartridge belt for cartridges having a substantial taper forwardly toward the bullet end thereof, said link comprising a first part having a substantially semicylindrical portion forming an internal arcuate track, a second part having a substantially semicylindrical portion disposed in side-by-side relation to said track portion with the open sides of said portions facing in the same direction, one of said portions having an axially arcuate edge portion provided with an axially extending slot, and the other of said portions having an axially arcuate hook portion extending from the adjacent edge thereof to fit over said arcuate edge portion with the opposed legs of said hook on opposite sides of said slot, and a pin extending between said legs of said hook and through said slot whereby said parts are secured in laterally fixed relation and are relatively tiltable and relatively rotatable, said track portion having a diameter substantially equal to the diameter of the semicylindrical portion of said second part and thereby being adapted to receive in nesting relation a portion of an adjacent link corresponding to said semicylindrical portion of said second part and whereby said nesting portion is adapted to engage with said track to prevent separation of adjacent links by longitudinal stresses on said belt, said first part having a clamping portion in axial relation to said track portion to frictionally grip the large end of a tapered cartridge and support the cartridge with an intermediate portion thereof extending through said nesting portion to retain said nesting and track portions in nesting relation, said clamping portion including means engaging said cartridge for positively preventing rearward movement of said cartridge relative to said link while permitting forward ejection of said cartridge, said nesting portion having an internal diameter greater than the diameter of the large rear end of said tapered cartridge to permit free forward movement of the cartridge therethrough, said nesting portion being guided by said track portion for arcuate movement to permit longitudinal flexing of the cartridge belt.

6. A cartridge belt link of the push-through type adapted to cooperate with other similar links to form a disintegrating cartridge belt for cartridges having a substantial taper forwardly toward the bullet end thereof, said link comprising a first part having a substantially semicylindrical portion forming an internal arcuate track, a second part having a substantially semicylindrical portion disposed in side-by-side relation to said track portion with the open sides of said portions facing in the same direction, one of said portions having an axially arcuate edge portion provided with an axially extending slot and the other of said portions having an axially arcuate hook portion extending from the adjacent edge thereof to fit over said arcuate edge portion with the opposed legs of said hook on opposite sides of said slot, and a pin extending between said legs of said hook and through said slot whereby said parts are secured in laterally fixed relation and are relatively tiltable and relatively rotatable, said track portion having a diameter substantially equal to the diameter of the semicylindrical portion of said second part and thereby being adapted to receive in nesting relation a portion of an adjacent link corresponding to said semicylindrical portion of said second part and whereby said nesting portion is adapted to engage with said track to prevent separation of adjacent links by longitudinal stresses on said belt, said first part having a clamping portion in axial relation to said track portion to frictionally grip the large end of a tapered cartridge and support the cartridge with an intermediate portion thereof extending through said nesting portion to retain said nesting and track portions in nesting relation, said clamping portion including opposed arcuate spring fingers adapted to be spread apart upon insertion of said cartridge, the free ends of said fingers being spaced to provide a stripper-receiving slot in alignment with the open side of said track portion, said nesting portion having an internal diameter greater than the diameter of the large rear end of said tapered cartridge to permit free forward movement of the cartridge therethrough, said nesting portion being guided by said track portion for arcuate movement to permit longitudinal flexing of the cartridge belt.

7. A cartridge belt link of the push-through type adapted to cooperate with other similar links to form a disintegrating cartridge belt for cartridges having a substantial taper forwardly toward the bullet end thereof, said link comprising a first part having a substantially semicylindrical portion forming an internal arcuate track, a second part having a substantially semicylindrical portion disposed in side-by-side relation to said track portion with the open sides of said portions facing in the same direction, one of said portions having an axially arcuate edge portion provided with an axially extending slot and the other of said portions having an axially arcuate hook portion extending from the adjacent edge thereof to fit over said arcuate edge portion with the opposed legs of said hook on opposite sides of said slot, and a pin extending between said legs of said hook and through said slot whereby said parts are secured in laterally fixed relation and are relatively tiltable and relatively rotatable, said track portion having a diameter substantially equal to the diameter of the semicylindrical portion of said second part and thereby being adapted to receive in nesting relation a portion of an adjacent link corresponding to said semicylindrical portion of said second part and whereby said nesting portion is adapted to engage with said track to prevent separation of adjacent links by longitudinal stresses on said belt, said first part having a clamping portion in axial relation to said track portion to frictionally grip the large end of a tapered cartridge and support the cartridge with an intermediate portion thereof extending through said nesting portion to retain said nesting and track portions in nesting relation, said clamping portion including opposed arcuate spring fingers adapted to be spread apart upon insertion of said cartridge, the free ends of said fingers being spaced to provide a stripper-receiving slot in alignment with the open side of said track portion, and an inwardly and forwardly extending lug on said clamping portion for engaging the extraction groove of said cartridge to

prevent rearward movement of said cartridge relative to said link, said lug permitting forward ejection of said cartridge, said nesting portion having an internal diameter greater than the diameter of the large rear end of said tapered cartridge to permit free forward movement of the cartridge therethrough, said nesting portion being guided by said track portion for acuate movement to permit longitudinal flexing of the cartridge belt.

8. A cartridge belt link of the push-through type adapted to cooperate with other similar links to form a disintegrating cartridge belt for cartridges having a substantial taper forwardly toward the bullet end thereof, said link comprising a first part having a substantially semicylindrical portion forming an internal arcuate track, a second part having a substantially semicylindrical portion disposed in side-by-side relation to said track portion with the open sides of said portions facing in the same direction, one of said portions having an axially arcuate edge portion provided with an axially extending slot and the other of said portions having an axially arcuate hook portion extending from the adjacent edge thereof to fit over said arcuate edge portion with the opposed legs of said hook on opposite sides of said slot, and a pin extending between said legs of said hook and through said slot whereby said parts are secured in laterally fixed relation and are relatively tiltable and relatively rotatable, said track portion having a diameter substantially equal to the diameter of the semicylindrical portion of said second part and thereby being adapted to receive in nesting relation a portion of an adjacent link corresponding to said semicylindrical portion of said second part and whereby said nesting portion is adapted to engage with said track to prevent separation of adjacent links by longitudinal stresses on said belt, said first part having a clamping portion in axial relation to said track portion to frictionally grip the large end of a tapered cartridge and support the cartridge with an intermediate portion thereof extending through said nesting portion to retain said nesting and track portions in nesting relation, said clamping portion including opposed arcuate spring fingers adapted to be spread apart upon insertion of said cartridge, the free ends of said fingers being spaced to provide a stripper-receiving slot in alignment with the open side of said track portion, and inwardly extending lugs adjacent the free ends of said arcuate fingers for engaging the extractor groove of said cartridge, said nesting portion having an internal diameter greater than the diameter of the large rear end of said tapered cartridge to permit free forward movement of the cartridge therethough, said nesting portion being guided by said track portion for arcuate movement to permit longitudinal flexing of the cartridge belt.

9. A cartridge belt link of the push-through type adapted to cooperate with other similar links to form a disintegrating cartridge belt for cartridges having a substantial taper forwardly toward the bullet end thereof, said link comprising a first part having a substantially semicylindrical portion forming an internal arcuate track, a second part having a substantially semicylindrical portion disposed in side-by-side relation to said track portion with the open sides of said portions facing in the same direction, one of said portions having an axially arcuate edge portion provided with an axially extending slot and the other of said portions having an axially arcuate

hook portion extending from the adjacent edge thereof to fit over said arcuate edge portion with the opposed legs of said hook on opposite sides of said slot, and a pin extending between said legs of said hook and through said slot whereby said parts are secured in laterally fixed relation and are relatively tiltable and relatively rotatable, said track portion having a diameter substantially equal to the diameter of the semicylindrical portion of said second part and thereby being adapted to receive in nesting relation a portion of an adjacent link corresponding to said semicylindrical portion of said second part and whereby said nesting portion is adapted to engage with said track to prevent separation of adjacent links by longitudinal stresses on said belt, said first part having a clamping portion in axial relation to said track portion to frictionally grip the large end of a tapered cartridge and support the cartridge with an intermediate portion thereof extending through said nesting portion to retain said nesting and track portions in nesting relation, said nesting portion having an internal diameter greater than the diameter of the large rear end of said tapered cartridge to permit free forward movement of the cartridge therethrough, said nesting portion being guided by said track portion for arcuate movement to permit longitudinal flexing of the cartridge belt, said track portion having a slot extending circumferentially from the edge thereof opposite said interconnecting means, said slot receiving said interconnecting means upon arcuate movement of said nesting portion to flex said belt in one direction from a straight line, and means on said track portion adjacent the open end of said circumferential slot and on said nesting portion adjacent the free edge thereof cooperating to prevent separation of said nesting and track portions upon arcuate movement of said nesting portion to flex said belt in the opposite direction from a straight line.

10. A cartridge belt link of the push-through type adapted to cooperate with other similar links to form a disintegrating cartridge belt for cartridges having a substantial taper forwardly toward the bullet end thereof, said link comprising a first part having a substantially semi-cylindrical portion forming an internal arcuate track, a second part having a substantially semicylindrical portion disposed in side-by-side relation to said track portion with the open sides of said portions facing in the same direction, one of said portions having an axially arcuate edge portion provided with an axially extending slot and the other of said portions having an axially arcuate hook portion extending from the adjacent edge thereof to fit over said arcuate edge portion with the opposed legs of said hook on opposite sides of said slot, and a pin extending between said legs of said hook and through said slot whereby said parts are secured in laterally fixed relation and are relatively tiltable and relatively rotatable, said track portion having a diameter substantially equal to the diameter of the semicylindrical portion of said second part and thereby being adapted to receive in nesting relation a portion of an adjacent link corresponding to said semicylindrical portion of said second part and whereby said nesting portion is adapted to engage with said track to prevent separation of adjacent links by longitudinal stresses on said belt, said first part having a clamping portion in axial relation to said track portion to frictionally grip the large end of a tapered cartridge and support the cartridge with an intermediate portion thereof ex-

tending through said nesting portion to retain said nesting and track portions in nesting relation, said nesting portion having an internal diameter greater than the diameter of the large rear end of said tapered cartridge to permit free forward movement of the cartridge therethrough, said nesting portion being guided by said track portion for arcuate movement to permit longitudinal flexing of the cartridge belt, outwardly extending lug means on said nesting portion adjacent the free edge thereof, and cooperating inwardly extending lug means adjacent the free edge of said track portion, said lug means being positioned for engagement when said arcuate movement causes said free edges to come into proximity whereby separation of said nesting and track portions is prevented.

11. A cartridge belt link of the push-through type adapted to cooperate with other similar links to form a disintegrating cartridge belt for cartridges having a substantial taper forwardly toward the bullet end thereof, said link comprising a first part having a substantially semicylindrical portion forming an internal arcuate track, a second part having a substantially semicylindrical portion disposed in side-by-side relation to said track portion with the open sides of said portions facing in the same direction, one of said portions having an axially arcuate edge portion provided with an axially extending slot and the other of said portions having an axially arcuate hook portion extending from the adjacent edge thereof to fit over said arcuate edge portion with the opposed legs of said hook on opposite sides of said slot, and a pin extending between said legs of said hook and through said slot whereby said parts are secured in laterally fixed relation and are relatively tiltable and relatively rotatable, said track portion having a diameter substantially equal to the diameter of the semicylindrical portion of said second part and thereby being adapted to receive in nesting relation a portion of an adjacent link corresponding to said semicylindrical portion of said second part and whereby said nesting portion is adapted to engage with said

track to prevent separation of adjacent links by longitudinal stresses on said belt, said first part having a clamping portion in axial relation to said track portion on one side thereof and a guide portion axially disposed on the opposite side of said track portion, said clamping and guide portions having stripper-receiving slots in alignment with the open side of said track portion, said clamping portion frictionally gripping the large end of a tapered cartridge and said guide portion loosely encircling another portion of said cartridge to limit tilting movement thereof about its frictionally gripped end, an intermediate portion of said cartridge extending through said nesting portion to retain said nesting portion in said track portion, said nesting and guide portions having internal diameters greater than the large end of said cartridge to permit free forward movement of the cartridge therethrough, said nesting portion being guided by said track portion for arcuate movement to permit longitudinal flexing of the cartridge belt.

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