S. B. GIRDLER.

CATCH FOR BELTS.

APPLICATION FILED JUNE 3, 1918.

1,303,652. Patented May 13, 1919.

Fig. 1.

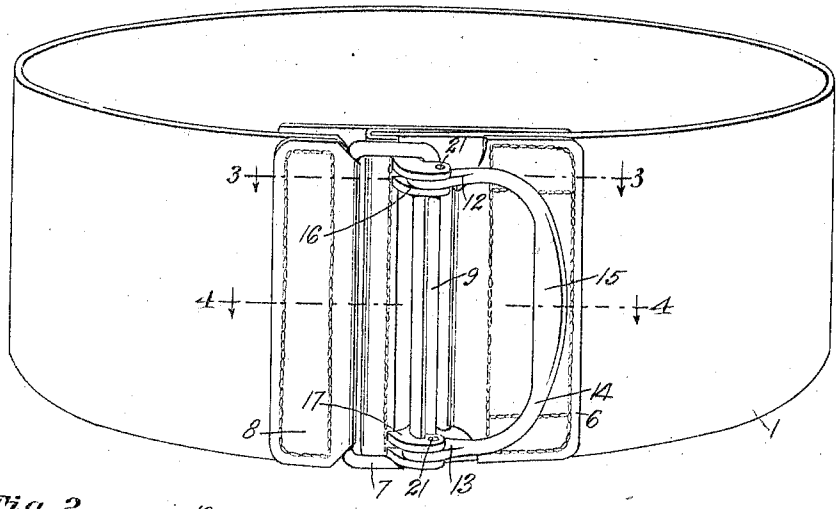


Fig. 2.

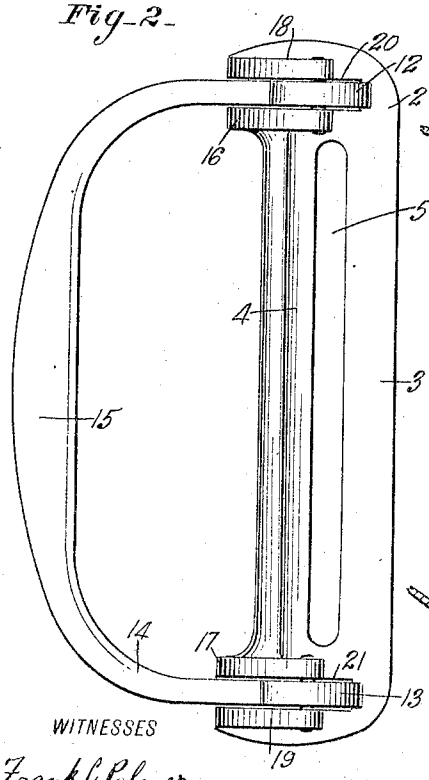


Fig. 3.

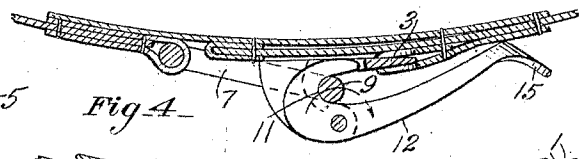


Fig. 4.

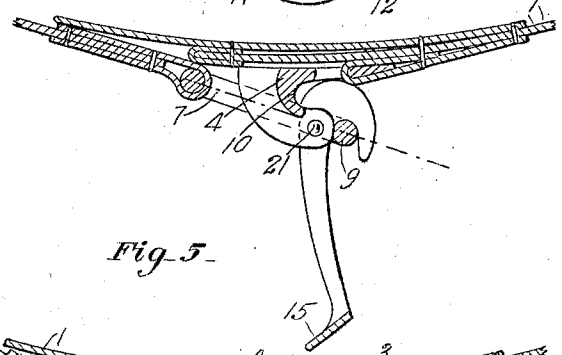
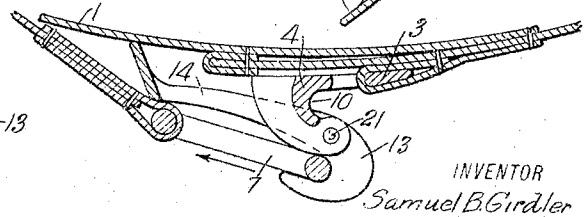


Fig. 5.



WITNESSES

Frank C. Palmer.

A. L. Kitchin

INVENTOR

Samuel B. Girdler

BY Mmm & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

SAMUEL BRENT GIRDLER, OF EAST ORANGE, NEW JERSEY.

CATCH FOR BELTS.

1,303,652. Specification of Letters Patent. Patented May 13, 1919.

Application filed June 3, 1918. Serial No. 237,989.

To all whom it may concern:

Be it known that I, SAMUEL BRENT GIRDLER, a citizen of the United States, and a resident of East Orange, in the county of Essex and State of New Jersey, have invented a new and Improved Catch for Belts, of which the following is a full, clear, and exact description.

This invention relates to catches or fastening means for belts and has for an object the provision of an improved quick acting catch which will not readily become disengaged accidentally.

Another object of the invention is to provide a catch for belts which is extremely strong both in the general makeup and in its resistance to any opening action produced by the usual pull thereon.

A still further object of the invention is to provide a quick releasing catch for belts of different kinds which will not release until it is positively opened to an appreciable extent in order to insure against accidental opening when partially operated.

In the accompanying drawing:

Figure 1 is a perspective view of a catch embodying the invention, the same being shown in position.

Fig. 2 is a plan view of the catch in an unlocked position.

Fig. 3 is a section through Fig. 1 on line 3—3, the same being on an enlarged scale.

Fig. 4 is a section through Fig. 1 on line 4—4, the same being on an enlarged scale with the parts moved to an almost open position.

Fig. 5 is a view similar to Fig. 4, but showing the parts in a full open position.

Referring to the accompanying drawing by numerals, 1 indicates a belt of any desired kind, for instance a safety belt for window-cleaners, firemen, aviators and other persons engaged in more or less hazardous undertakings. In providing a belt for persons of this character the belt, of course, must be sufficiently strong to stand the weight of a person, and the buckle or catch holding the ends together should be strong enough to support at least the weight of the person using the belt, and also must be capable of quick disengagement in case of an emergency. This is especially true in regard to belts used by firemen, life-savers or aviators.

In the drawing a quick opening catch is shown, which at the same time is amply strong. Referring to Fig. 1 it will be seen how the parts are connected. The catch is preferably provided with a base 2 having a connecting bar 3 and a bracing bar 4 with a slot 5 therebetween. The retaining leather or other material 6 extends through slot 5 and is then sewed or otherwise rigidly secured to belt 1. A ring 7 is held in place by a connecting member of leather or other material 8. Ring 7 is substantially rectangular so that the section 9 will rest flatwise against the curved surface 10 of bar 4 as well as against the curved surface or pocket 11 of the hook ends 12 and 13. The hook ends 12 and 13 are connected by an operating bar 14 widened at 15 and providing a hand hold so that the parts may be quickly moved from the full closed position shown in Fig. 3 to the full opened position shown in Fig. 5. The bracing bar 4 merges into overhanging posts 16 and 17, while the bar 3 merges into overhanging or hook-shaped posts 18 and 19 as well as merges into the bar 4. Between the respective posts slots 20 and 21 are provided so as to allow the free action of the end of the hook members 12 and 13. It will be noted from Figs. 3, 4 and 5 that the respective posts 16 to 19 inclusive have an appreciable overhang so as to produce the curved socket 10 back of the pivotal pin 21, whereby the continuous strain on the ring 7 will positively hold the hooks 12 and 13 in place and bar 14 against the leather connecting member 6. This arrangement is extremely desirable as it permits a quick disengagement of the parts while positively preventing a slight accidental movement of the member 14 from around the catch. In fact the catch may be opened to the extent shown in Fig. 4 and if released at that place will automatically move back to a closed position. A slightly further open movement to that shown in Fig. 4 would cause the center of the section 9 to pass the center of pin 21 and consequently would allow the strain on the link 7 to cause a full opening movement quickly, as illustrated in Fig. 5. In belts of this kind the use of the arms and the contact of the body with different articles sometimes gives the operating bar 14 a slight opening movement which would not in the present instance in any way cause a disengagement of the parts as the parts would move back to their former position as soon as released. This structure requires a positive movement to produce a complete

disengagement as the link and associate parts act to hold the operating bar 14 against the belt or urge the operating bar to return to said belt.

From Figs. 4 and 5 it will be observed that the bar 4 is of an appreciable thickness as well as bar 3 and in fact all the parts are made of substantial size so as to produce the desired resistance to any bending or twisting strain whereby the parts are maintained in proper condition for a quick release, which would not be the case unless the various parts were thickened and reinforced at the proper place. In case of a fall by a fireman or by an aviator the pressure against the catch is quite appreciable, sometimes amounting to several hundred pounds, caused by the momentum of the body. When an accident happens like this it is quite often necessary to quickly detach the belt and if the catch is bent such detaching cannot be readily accomplished, therefore the bars 3 and 4 are properly formed to act to resist the bending action caused by a sudden pull on link 7 and hold the various parts in place whereby the hook ends 12 and 13 may be brought to a disengaged or unlocked position.

What I claim is:

1. A catch for belts comprising a comparatively long base having a slot extending longitudinally thereof, said slot being adapted to accommodate one end of said belt whereby the base is connected with the belt, an oblong link adapted to be connected to another part of said belt and interlocked with said base, said base being provided with spaced hook members adjacent its opposite ends, and facing transversely of the base, said hook members receiving and interlocking with one side of said link adjacent its ends, and a pivotally mounted locking member mounted on said hook members formed with means for moving the link out of engagement with said hook members, said locking member disengaging said link by a single movement, said movement being at least a 90° movement.

2. A quick release catch for belts comprising a relatively long base adapted to be connected with one part of said belt, a hook-shaped post mounted on said base adjacent each end thereof and facing transversely of the base, the ends of said hook-shaped post overhanging to such an extent as to provide a socket, an oblong link connected to another part of said belt provided with a long section adapted to fit into the sockets of said posts, a releasing member comprising a hook at each end formed substantially the same shape as said post and a substantially U-shaped bar connecting said hooks, and a pivotal pin for each of said posts for pivotally connecting the ends of said release bar to the post whereby when the bar is in one position the link is in an interlocked position with the hook-shaped posts and the hooks on said release bar and when moved to an opposite position the locked portion of the link is moved upon said hook members to a released position.

3. A quick release catch for belts comprising a base adapted to be connected to one part of the belt, a link adapted to be connected to another part of the belt, a pair of spaced hook-shaped posts adjacent each end of said base facing away from said link, the ends of the posts extending a sufficient distance to provide link receiving sockets, said posts being adapted to receive one section of said link when the catch is in a closed position, and a release bar pivotally mounted on said posts, said release bar having hook ends positioned between each pair of posts, said hook ends having sockets conforming to the sockets of the posts whereby the strain on said hook will act to maintain the release bar in a locked position until the portion of said link engaging the hook members has been moved past the pivotal mounting of said release bar.

4. A quick release catch comprising a base having spaced end sections, a connecting bar adapted to be secured to a belt and a brace having an arc-shaped groove therein merging into end hook-shaped posts, said groove and the hook-shaped posts forming a socket, a link adapted to be connected to a belt formed with a section capable of engaging said socket for the full length of said brace including the hook-shaped posts, and a release bar pivotally connected with said posts adjacent the outer end thereof, said release bar having an extension at each end for moving said section of said link out of said socket and from the outer end of said posts for effecting a release.

SAMUEL BRENT GIRDLER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."