Aug. 15, 1950 T. J. HENDERSON 2,518,889

RELEASABLE SHACKLE

Filed Dec. 8, 1945

Fig. 1.

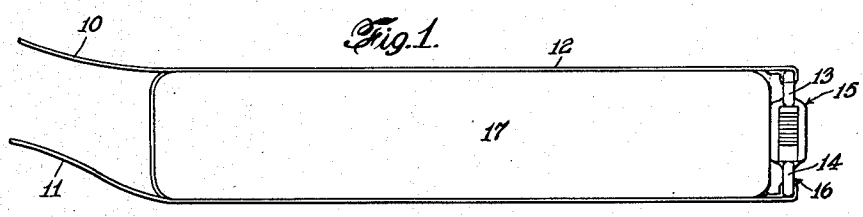


Fig. 2.

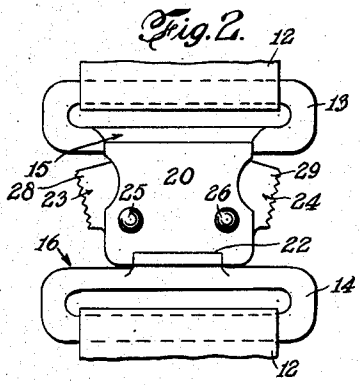


Fig. 3.

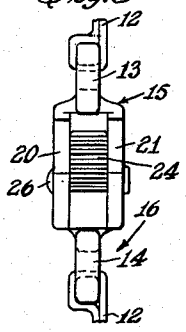


Fig. 4.

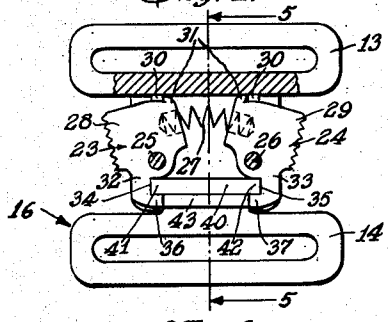


Fig. 5.

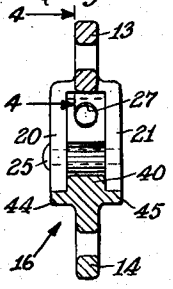


Fig. 6.

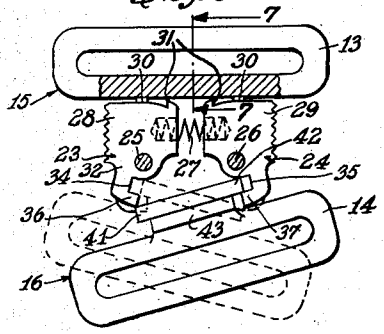
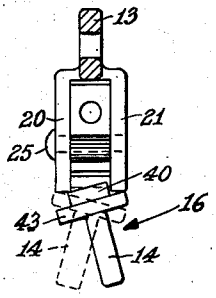


Fig. 7.



INVENTOR.
THOMAS J. HENDERSON

BY E. W. Marshall

ATTORNEY.

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RELEASABLE SHACKLE

Thomas J. Henderson, Bayport, N. Y.

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4 Claims. (Cl. 24—77)

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This invention relates to releasable shackles particularly adapted for connecting strap ends.

The invention has for its salient object to provide a releasable shackle so constructed and arranged that it will withstand and secure a heavy load but can be easily manipulated to release such load.

Another object of the invention is to provide a shackle of the character described that can be easily and quickly released regardless of its angular position.

Another object of the invention is to provide a shackle of the character described so constructed and arranged that it can be released by the fingers of one hand.

Further objects of the invention will appear from the following specification taken in connection with the drawings which form a part of this application, and in which

Fig. 1 illustrates the shackle in side elevation drawn to a small scale, in use securing the straps of a pararaft kit. The other figures are drawn on a larger scale;

Fig. 2 is a front elevation of the shackle in closed position;

Fig. 3 is an end elevation of the construction shown in Fig. 2;

Fig. 4 is a view similar to Fig. 2 but partly in section illustrating the latching levers in latching position. The part which is sectioned is taken on the line 4—4 of Fig. 5;

Fig. 5 is a central sectional end elevation of the construction shown in Fig. 4. The section in this figure is taken on the line 5—5 of Fig. 4;

Fig. 6 is a view similar to Fig. 4 but showing the latching levers in releasing position and one of the latch members being released therefrom; and

Fig. 7 is a side elevation, partly in section, illustrating the releasing of one of the latch members with this member positioned in different angular relation to the other latch member. The part which is sectioned is taken on the line 7—7 of Fig. 6.

The releasable shackle has been particularly developed in connection with a pararaft kit release adapted, for instance, to secure a raft to pararaft harness, but it should be understood that it is not limited to such use, but is capable of general application.

In the particular embodiment of the invention illustrated in the drawings, parachute straps 10 and 11 are shown. To these straps is secured a kit securing strap 12 having its ends secured to flattened loops 13 and 14 of a pair of shackle

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members 15 and 16. A kit 17 is secured by the strap 12.

The shackle member 15 has spaced, substantially parallel walls 20 and 21 having recesses or notches 22 at their free ends, the other ends of the walls being joined to each other and to the loop 13.

Between the walls latching levers 23 and 24 are mounted on substantially parallel pivots 25 and 26. A spring 27 is positioned between the inner ends 28 and 29 of the levers, in sockets therein, and this spring forces the ends 28 and 29 away from each other. This spring movement of the latching levers is limited by stops 30, 30, which are engaged by lugs 31 on the outer surfaces of the lever ends 28 and 29.

As shown in Figs. 2 and 3, the ends 28 and 29 project laterally beyond the sides of the walls 20 and 21 and the outer edges of these projecting portions may be serrated or roughened, if desired. These projecting portions of the latching levers are engaged by the fingers of the shackle user and are pressed inwardly to release the shackle in the manner hereinafter described. If desired, the edges of the walls 20 and 21 may be slightly concaved or recessed as shown to facilitate this operation.

The outer ends 32 and 33 of the latching levers 23 and 24 have notches or recesses 34 and 35 which form on the ends of the levers, latching lugs 36 and 37, the upper surfaces of which are flat. The inner ends of the recesses 34 and 35 are offset from or disposed outwardly of the pivots 25 and 26 when the levers are in latching position, as shown in Fig. 4.

The other shackle member 16 comprises the loop 14 and a fixed undercut lug 40 having projecting end portions 41 and 42 adapted to be received within the notches or recesses 34 and 35 of the latching levers 23 and 24 and to be embraced by the lever lugs 36 and 37. Between the lug 40 and the loop 14 is a portion 43 dimensioned in length to fit within the recesses or notches 22 at the ends of the walls 20 and 21. This portion 43 has projections or flanges 44 and 45 adapted to seat against the ends of the walls in the recessed portions thereof.

The inner flat surfaces of the lugs 36 and 37 are preferably angled slightly away from the under surfaces of the end portions 41 and 42 of the fixed lug 40 to facilitate the release of the lug when the latching levers are opened and the shackles are under tension. These parts are so arranged that the fixed lug and loop connected thereto will be easily and quickly released from

the latching lever lugs when the levers are moved inwardly to the position shown in Fig. 6, regardless of the angular position of the shackle. In Fig. 6 the lower loop and fixed lug are shown in full lines at one angle and in dash lines at a different angle, and in Fig. 7 the lower latch member is shown at different transverse angles to illustrate the facility of releasing the latch. When the lower latch member is subjected to a side pull at right angles to the planes of the walls 20, 21, the projections or flanges 44, 45 of its portion 43 will rock on the upper edges of the notches 22 in the lower ends of the side walls. It will be obvious that the user can easily and quickly release the shackle by pressing two fingers or the thumb and one finger against the ends 28, 29 of levers 23 and 24 to force the levers from the position shown in Figs. 2 and 4 to the position shown in Fig. 6. It will be obvious also that as the loops 13 and 14 extend laterally beyond the outer ends of the levers they form a guard which prevents accidental release of the shackle.

Although one specific embodiment of the invention has been particularly illustrated and described it will be understood that the invention is capable of modification and that changes in the construction and in the arrangement of the various cooperating parts may be made without departing from the spirit or scope of the invention, as expressed in the following claims.

What I claim is:

1. A releasable shackle comprising a pair of shackle members, one member having substantially parallel spaced walls, a pair of latching levers pivoted on transverse pivots between said walls and having latching lugs on the outer ends thereof, resilient means to swing said levers toward each other into latching position, said parallel walls having aligned notches in their outer ends, the other shackle member having a portion dimensioned to fit said notches, and a latching lug extending laterally beyond said notch-fitting portion into engagement with said lever lugs when said levers are in latching position.

2. A shackle such as that specified in claim 1, in which said notch-fitting portion is arranged to rock upon the inner edges of the notches.

3. A shackle such as that specified in claim 1, in which said levers have outwardly extending portions on the ends remote from the latching lugs arranged to project beyond the walls for engagement by the fingers of the user to release the latch.

4. A shackle such as that specified in claim 3, in which each of the shackle members has a loop extending laterally beyond the outwardly extending portions of the levers.

THOMAS J. HENDERSON.

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