Dec. 27, 1960 H. J. MORAN 2,965,944

BARREL CLIP AND RIP CORD ASSEMBLY

Filed Dec. 7, 1956

FIG. 1.

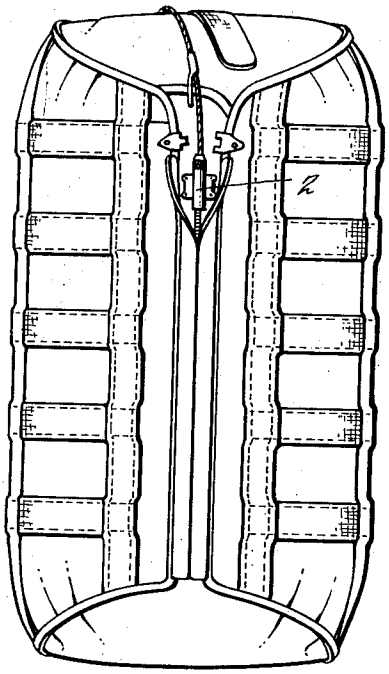


FIG. 2.

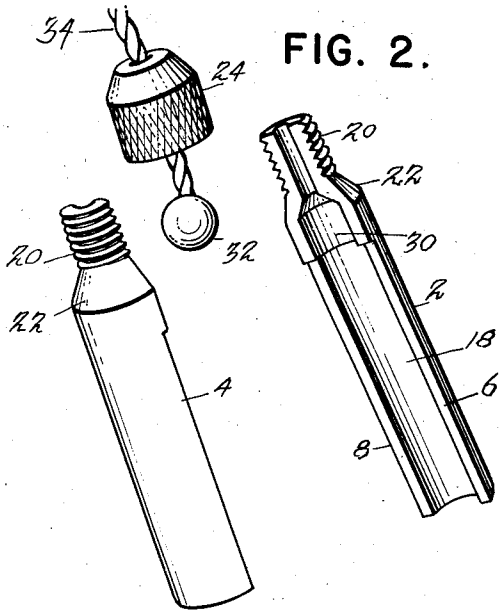


FIG. 3.

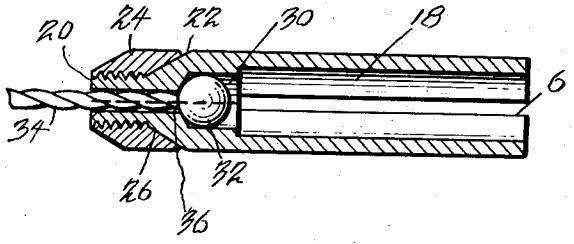


FIG. 5.

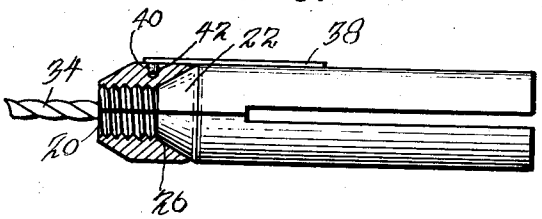


FIG. 4.

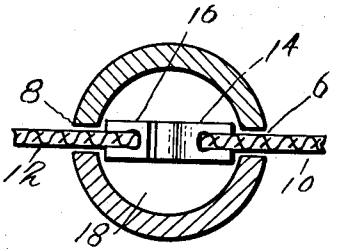
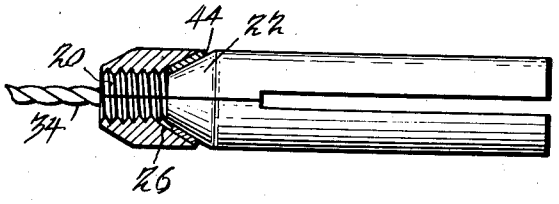


FIG. 6.



INVENTOR
Harold J. Moran
BY
Curtis, Morris & Safford
ATTORNEYS

United States Patent Office 2,965,944
Patented Dec. 27, 1960

2,965,944

BARREL CLIP AND RIP CORD ASSEMBLY

Harold J. Moran, Trenton, N.J., assignor to Switlik Parachute Company, Inc., Trenton, N.J., a corporation of New Jersey

Filed Dec. 7, 1956, Ser. No. 627,010

4 Claims. (Cl. 24—205.11)

This invention relates to a barrel clip and rip cord combination for releasably securing the end portions of interlocked separable fasteners, such as zippers, together.

The principal object of the invention is to provide a combination rip cord and barrel clip in which the rip cord is securely attached to the barrel clip and yet may be removed and replaced by a new rip cord.

Other objects of the invention will appear as the description thereof progresses.

In the drawing:

Figure 1 is an elevation of a parachute pack showing the relationship between the same and the barrel clip and rip cord;

Figure 2 is an exploded view of one form of the barrel clip;

Figure 3 is a longitudinal sectional view of the clip and the associated rip cord;

Figure 4 is a transverse sectional view showing the relationship between the separable fastener elements and the barrel clip;

Figure 5 is an elevational view of a modified form of clip, the securing collar being shown in section; and

Figure 6 is a view similar to Figure 5 of a second modified form of the clip.

In the form of the invention illustrated in Figures 2 through 4 of the drawing, the barrel clip is comprised by similar members 2 and 4 which together form a cylindrical clip having diametrically arranged slots 6 and 8 therein for the reception of the carrier elements 10 and 12 of the separable fastener elements 14 and 16.

The barrel clip is provided with an axial chamber 18 for the reception of the separable fastener elements 14 and 16.

In order that the two members 2 and 4 of the clip may be secured together, I have provided the barrel with a threaded neck portion 20 which is joined to the body portion of the barrel by a frusto-conical cam portion 22. An internally threaded locking collar 24 which is adapted to interengage with the neck portion 20 secures the two members 2 and 4 of the body portion of the clip together.

The collar 24 is provided with a cam face 26 which is complemental to the cam face 22 and is adapted to cooperate therewith to lock the collar in its securing position when the screw threads on the neck and the collar are interengaged. When the collar 24 is tightly screwed into position, the cam faces 22 and 26 will not only lock the two members 2 and 4 of the barrel together, but will also prevent the spreading of the free ends of the members 2 and 4.

Communicating with the chamber 18 is a socket 30 for the reception of an abutment 32 on the end of the rip cord 34 which passes through a channel 36 which extends through the threaded neck portion 20.

In the form of the invention illustrated in Figure 5, the construction differs from that of Figures 2 through 4 to the extent that a latch is provided to insure the retention of the collar 24 in its operative position. This latch

is comprised by flat spring 38 which carries a pin 40 that extends into a socket 42 in the collar 24.

The form of the invention illustrated in Figure 6 differs from that disclosed in Figures 2 through 4 to the extent that a split resilient frusto-conical washer 44 is disposed between the collar 24 and the cam faces 22 and 26.

When the cap is tightly screwed into position, the pressure that it exerts through the washer will insure the retention of the cap in its operative position.

The use of a barrel clip of the construction herein described and illustrated will make it possible to remove and replace a rip cord without the use of special tools and in the field.

While I have illustrated and described particular embodiments of my invention, it will be understood by those skilled in the art that certain changes may be made in the details of construction, and I therefore do not wish to be limited to the illustrated forms except insofar as such limitation is made necessary by the claims.

What I claim is:

1. A barrel clip for holding the end portions of separable fastener elements of the zipper type mounted on carrier elements comprising, complemental and separable members each having a body portion and a threaded neck portion, a threaded collar removably engaged with the threads on the neck portions, said body portions being recessed axially and cooperating to form an axial chamber for receiving the separable fastener elements and having offset edge portions cooperating to form open ended slots in the wall of the barrel clip through which the carrier elements of the separable fastener extend, the body portions of the separable members adjacent said neck portions and said collar having complemental cam faces to secure said collar on said neck portions and prevent spreading of the opposite ends of said separable members when the threads on said neck portions and on said collar are fully engaged, and a split resilient washer interposed between the cam faces on the body portions and collar.

2. The combination of a clip having an open end adapted to slide over and retain the complemental scoops of a separable fastener of the zipper type in engagement with each other and provide a quick removable connection with a rip cord at the other end, said clip comprising separate complemental elements of hollow form having contiguous edge portions engageable to form a body portion having an axial chamber therein open at one end and formed to provide a socket at the other end of the chamber, portions of the adjacent edges of said elements being cut away to form longitudinal slots in said body portion having open ends at the open end of the axial chamber, complemental hollow neck portions at the ends of the elements opposite the open end thereof and having external screw threads to form a substantially cylindrical threaded neck portion with an axial opening from the socket, a collar having screw threads in engagement with the screw threads on the neck portion to secure the separable elements together, the rip cord extending through said collar and axial opening in the neck portion, and means at the end of the cord and located in the socket of the body portion to retain the end of the cord in the clip and provide a connection thereto.

3. A combination of elements recited in claim 2 wherein said means at the end of the rip cord to retain the end of the cord in the clip is an abutment larger than the axial opening in the threaded neck and located in the socket in the body portion.

4. The combination of elements recited in claim 2 wherein said collar and said body portion are provided with complemental cam faces to secure said ele-

ments in assembled relation and prevent spreading of the opposite ends of said separable members.

References Cited in the file of this patent

UNITED STATES PATENTS

349,398	Lantz	Sept. 21, 1886
563,676	McGinnis et al.	July 7, 1896
992,821	Stewart	May 23, 1911
2,219,151	Osmun	Oct. 22, 1940
2,346,846	Isaacs	Apr. 18, 1944
2,348,975	Hohwart	May 16, 1944
2,561,375	Ingels	July 24, 1951
2,683,910	Moran	July 20, 1954