United States Patent

Tibbet

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[54] WARNING FLAG AND MOUNTING CARRIER THEREFOR

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[52] **U.S. Cl.**.....**116/173,** 116/28, 248/231

[51] **Int. Cl.**.....**G09f 17/00**

[58] **Field of Search**.....116/41, 28, 63, 63 P, 132, 116/173, 174, 175; 24/69 T, 69 J, 73 CH, 73 CE; 248/38, 39, 43, 41; 40/128; 340/84, 87, 114; 16/87.2

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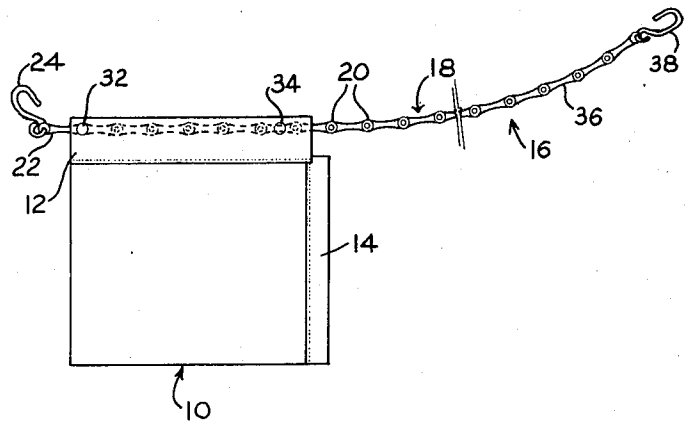
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[57] **ABSTRACT**

The invention relates to signal flags and mounting carriers therefor. A flag including two angularly related hems is adapted to receive in one of the hems, and to be attached to a flexible and elastic carrier, the carrier being adapted to be wrapped around an over-length vehicle carried load, to have the active length secured under tension and any surplus length correspondingly looped out of harm's way. The same flag may be mounted, if desired, on a rigid mounting carrier which comprises a hollow post. A flag spreading spring carried by the upper end of the post is received in the second hem of the flag. The spring can be folded down and may have a hook at the free end thereof caught in a perforation formed in the post when the flag and carrier are to be stored. Snap fasteners provided on the first hem of the flag may be detachably secured through complementary fasteners to either form of mounting carrier.

7 Claims, 9 Drawing Figures



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2 Sheets-Sheet 1

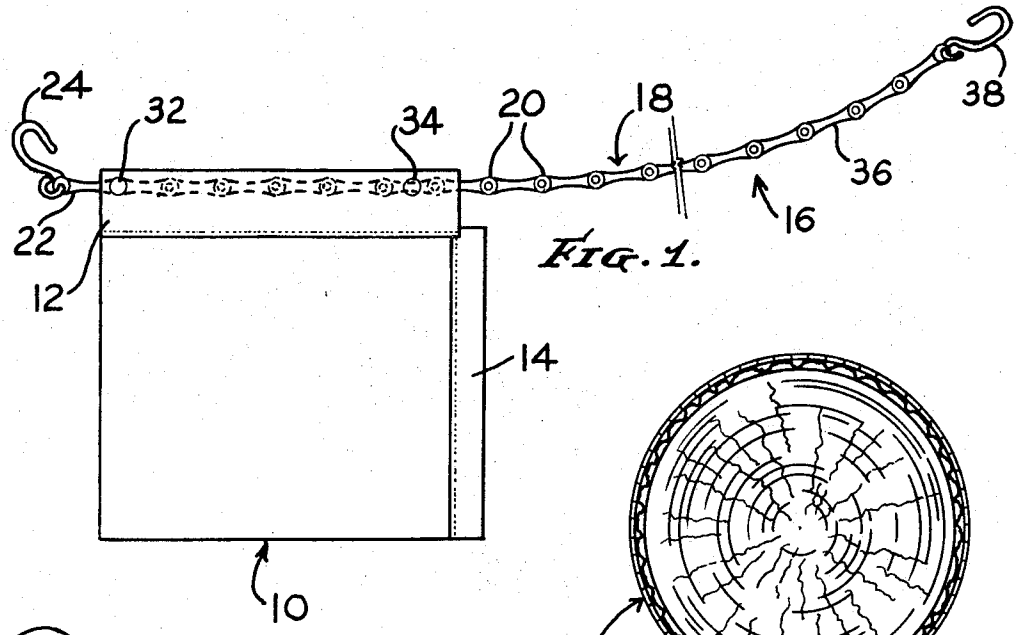


FIG. 1.

FIG. 2.

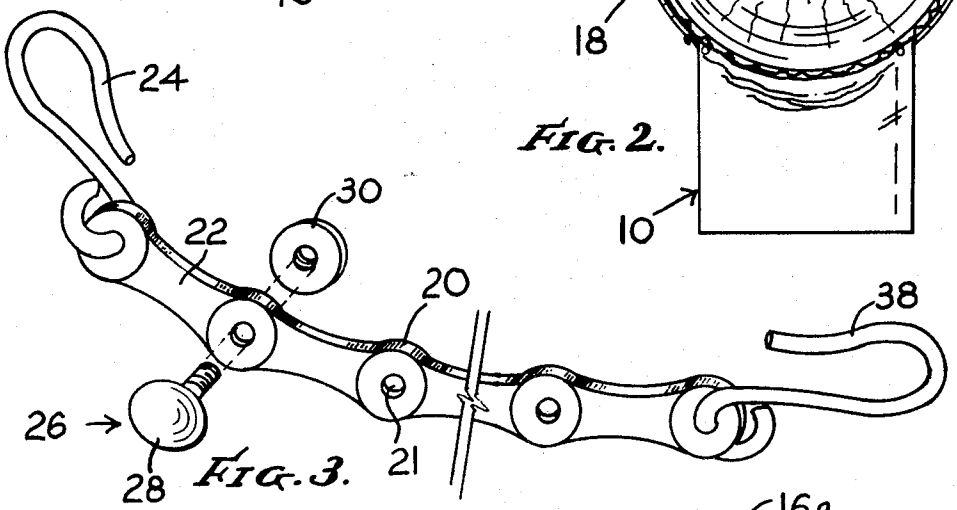


FIG. 3.

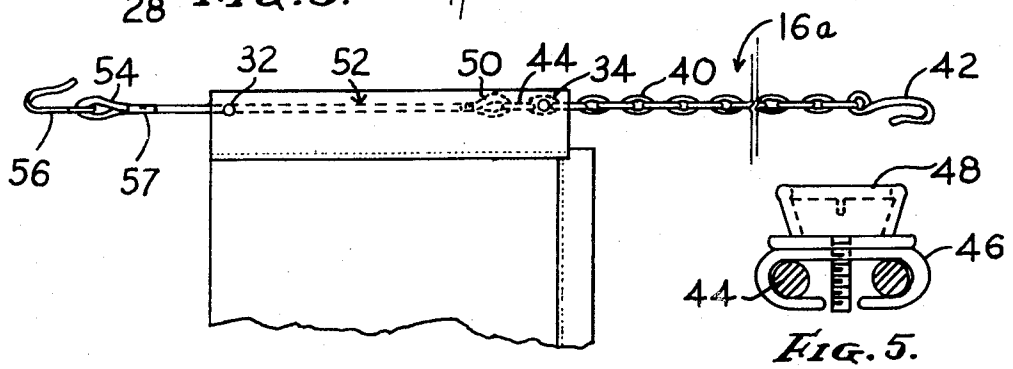


FIG. 4.

FIG. 5.

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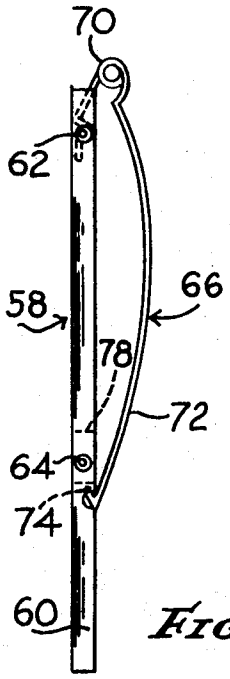


FIG. 6.

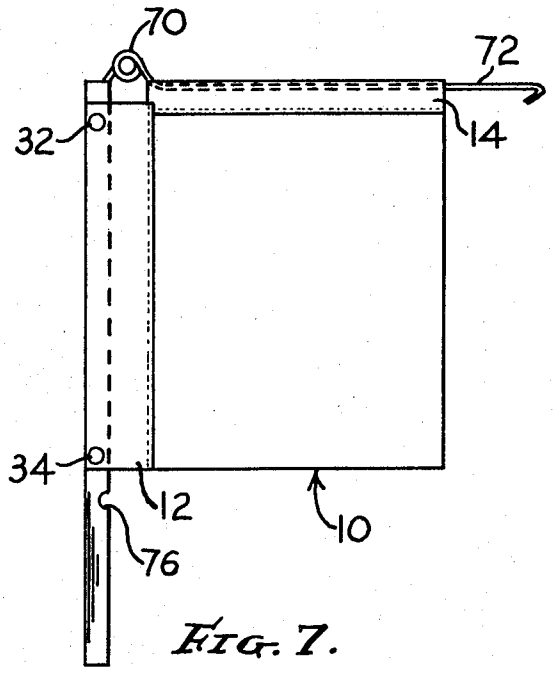


FIG. 7.

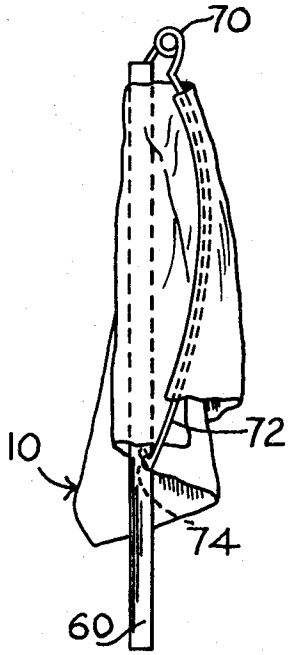


FIG. 8.

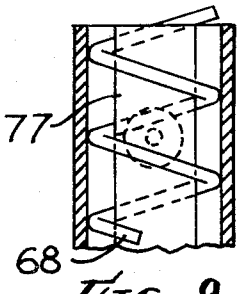


FIG. 9.

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WARNING FLAG AND MOUNTING CARRIER THEREFOR

This invention relates to warning flags designed for use on over-length vehicle carried loads, and for other purposes.

In some states, at least, the law requires that any vehicle load which extends as much as four feet beyond either end of the vehicle must display a red flag on the protruding end of the load. Whether required by law or not, the provision of such a warning indicator is prudent and desirable. Conspicuous examples, among many others, of need for such warning flags are logging truck loads of the Pacific Northwest and truck loads of power line poles.

It is a primary object of the invention to provide a flag and a secure wrap-around carrier for the flag, designed for use with protruding logs and like loads, which forms a complete unitary structure of extreme versatility. To this end a flag of suitable size, shape, color and material is provided, having a hem that extends along one flag margin, within which hem a portion of the carrier may be received, the carrier being detachably secured to the flag near one end of the hem. The carrier, in turn, is made to include a stretchable portion which extends substantially the full length, at least, of the hem referred to, a hook connected to the fixed end of the carrier, and a portion external to the hem and having a multiplicity of formations adapted for being selectively interfitted with the hook. The arrangement is such that, within limits, the carrier may be wrapped around a load and adjusted under tension to any active length desired. Should the load be too large for a single unit, two or more of the units may be used in tandem. In such an arrangement all but one of the flags may be detached from its carrier or, more desirably, each flag may remain in its carrier so that more than one flag is utilized.

In a combined unit of the kind referred to, the carrier portion normally within the flag hem may be stretchable while the portion external to the flag is not, the latter portion being made to consist of a length of metallic link chain.

Alternatively, the carrier may have uniform characteristics, being stretchable throughout its entire length and having formations throughout its entire length which could be interlocked with the hook if made accessible to the hook.

With the arrangement outlined, complete units are always at hand. Should a flag become mutilated or a carrier become broken, however, the damaged member can be detached and replaced conveniently without delay.

It is a further feature that a rigid support is made available, capable of supporting the same flag in a spread or rolled-up condition, and that the flag is formed with a second hem along a second margin which is angularly related to the first and in which a spreading spring, adjustably carried by the rigid support, is received. The same detachable fastening means already described, (which may consist of cooperative male and female snap fastening members), is utilized for attaching the flag at one end of the first-mentioned hem to the post. A second snap fastener combination of the same kind is provided for detachably connecting the opposite end of the post-containing hem to the post.

The detachable fastening means previously referred to may consist of cooperative male and female snap fasteners, the former affixed to the carrier near one end thereof, and the latter to one layer of the flag hem near one end thereof. The same flag-attached fastener may be snapped onto a male fastener affixed to the post, and a similar pair of correspondingly spaced snap fasteners may be mounted on the flag and post, the spacing being designed to maintain the flag fully extended widthwise.

It is a further feature that the portion of the post carried spring received in the second hem of the flag extends, when not under stress, at right angles to the post, that this portion of the spring is slightly bowed, and that the spring terminates in a protruding hook. By temporarily straightening the spring, the hook may be made to reach and enter a hole formed in the hollow post, and to be retained therein by the bowing of the released spring.

Other objects and advantages will hereinafter appear.

In the drawing forming part of this specification

FIG. 1 is a view in elevation showing a combined flag and carrier unit which constitutes a practical and advantageous embodiment of the invention;

FIG. 2 shows the unit of FIG. 1 (on a smaller scale) applied to a log of large diameter;

FIG. 3 is a partly exploded view of the carrier of FIGS. 1 and 2, but on a considerably larger scale, the carrier being broken away intermediate its ends for compactness of illustration;

FIG. 4 shows the same flag as the preceding figures, associated with a modified form of carrier;

FIG. 5 is a fragmentary detail view showing how a male snap fastener is made a part of the flexible flag mounting means;

FIG. 6 shows a carrier of the post type with a spreading spring thereof caught in its inactive position;

FIG. 7 shows the carrier of FIG. 5 supporting the flag of FIGS. 1, 2 and 4 in a spread condition;

FIG. 8 shows the same structure as FIG. 6, but with the carrier in the condition of FIG. 5; and

FIG. 9 is a fragmentary view of the upper end of the post and spring, showing how a spring is anchored in the post.

The flag carrier unit of FIGS. 1 to 3 includes a flag **10** which is made from a rectangular piece of fabric desirably a red, non-woven, non-absorbent, plastic material. The flag includes two hems **12** and **14** which extend along adjacent, angularly related margins. The hems are shown as formed by stitching, but they may be formed by heat-sealing if the flag material chosen lends itself to that method of fabrication.

The fact that the hem **14** is provided has no significant purpose as regards the organization of FIGS. 1 to 3, but it is in no way inconsistent with the use of the flag in that organization.

A flexible flag mounting means or carrier **16** is provided which comprises an elastic, chain-like band **18** of stretchable rubber. The band **18** has enlargements **20** formed at frequent, desirably uniform, intervals throughout its length, each such enlargement having a perforation **21** formed through it. Although the band **18** is not, strictly speaking, a chain, and its segments are not, strictly speaking, links, the band will be referred to herein as a chain.

One end of the chain **18** is lodged in the hem **12** of the flag with a portion of a single terminal link **22** exposed. The outer perforation **21** of the link **22** has a portion of a hook **24** secured in it. The perforation at the inner end of link **22** is used for mounting a male snap fastening member **26**. The member **26** is composed of a headed bolt **28** and a nut **30**, the threaded shank of the bolt being passed through the perforation at the inner end of link **22**, and having the nut **30** screwed up tight on it.

A female snap fastening member **32** is mounted on one layer of the hem **12** for cooperation with the head of fastening member **28**, so that the flag **10** is fastened to the chain **18** at a single point, leaving the portion of the chain within the hem free to stretch relative to the flag.

The same layer of the flag hem **12** has secured to its opposite end, in a similar location, an identical female snap fastener member **34**. The member **34** does not normally perform any function in connection with the carrier **16**, its primary purpose being for use in the combination of FIGS. 5 to 7, as will be explained later. The snap fastener member **34** may, however, be used as a substitute for snap fastener member **32** in the event that the fastener member **32** becomes damaged, or is torn off the flag.

The terminal link **36** of the chain **18** has affixed in the perforation **21** at the outer end thereof a metallic hook **38** like the hook **24**. The free end of either hook can be passed through any perforation which is accessible to it, or either hook may be passed around the reduced portion of any link accessible to it.

When the flag-carrier combination described is to be mounted in a manner like that shown in FIG. 2, the hook **24** is held in one hand while the chain **18** is passed over and around the log or logs. The two ends of the chain are pulled to put the chain under tension and to stretch it so that it will assuredly remain under tension, with the flag in the dependent position shown. The hook **24** is then passed through the most con-

venient perforation **21** or around the most convenient reduced portion of the chain, to retain the active portion of the chain in a stretched condition. The hook **38** is then passed through or around any conveniently accessible portion of the chain for carrying any surplus chain length in a looped condition and at a level where it is not exposed to snagging on extraneous objects.

The structure illustratively shown in FIGS. **4** and **5**, like that of FIGS. **1** to **3**, provides a unitary carrier-flag combination in which the carrier is flexible and extensible. In this form of the invention the flag, itself, is desirably of precisely the same construction as the flag of FIGS. **1** to **3**, and corresponding reference characters have been applied to the flag and to the parts thereof.

The carrier **16***a* comprises a flexible length of metallic chain **40** having a hook **42** at the free end thereof. The terminal link **44** at the opposite end of the chain has affixed thereto a metallic plate **46** through which the threaded shank of a male snap fastener member **48** is screwed. As shown, the snap fastener member **48** is located within the hem **12** of the flag, and is snapped into the snap fastener member **34** thereof. It could equally well have been snapped into fastener member **32**.

The terminal link **44** of the chain receives a looped end **50** of a length of stretchable bungy cord **52**, which cord, in an unstrained condition, is largely contained within the hem **12** of the flag. The opposite end of the bungy cord is formed with a loop **54**, in which a portion of a metallic hook **56** is secured. Each of the loops **50** and **54** is formed by doubling the bungy cord back upon itself, enclosing the doubled portion in a split sleeve **57** of non-rustable metal and applying deforming pressure to the split sleeve for inescapably retaining the doubled portion in the sleeve.

The flag may be applied to a log or logs, or to a similar load, in the manner already described. The hook **56** may be caught in any conveniently accessible link of the chain **40** with the bungy cord stretched substantially, and any surplus length of chain may then be looped by catching hook **42** in any chosen, conveniently accessible link of the chain.

In FIG. **6** disclosure is made of a rigid post type of flag carrier **58**, adapted for other uses than long loads. The carrier desirably includes a length of non-rustable, metallic tubing which forms a rigid hollow post **60**. Male snap fastener members **62** and **64** are provided on the post for cooperation, respectively, with female snap fastener members **32** and **34** on the flag hem **12**. The fasteners **62** and **64** are spaced apart substantially the same distance as the members **32** and **34**, so that there will be no substantial slack in the flag along the hem **12**.

Each of the male fastener member **62** and **64** takes the form of a conventional wood screw having a tapered and pointed shank and having its head formed to serve as a conventional snap fastener member. The member **62** serves a further important function in anchoring a flag spreading spring **66** in place and in maintaining a required orientation of the spring.

The spring **66** comprises a mounting portion **68** adapted to be fixed in the upper end of the post, a spiral spring portion **70** of several turns, a normally straight or nearly straight portion **72** which is adapted to be received in the hem **14**, and a terminal hook portion **74**.

When not in use, the carrier **58** and the flag **10** take the form shown in FIG. **8**, the hook being caught in a perforation **76** which is formed in the post. When in the condition shown in FIG. **8**, the flag may be wrapped loosely, double thickness, around the post **60** and retained in the neatly wrapped condition by a small rubber band.

When the spring is bent down into position to be caught in the hole **76**, the arm portion **72** is bent, but the arm portion is long enough when straightened or partially straightened, to be withdrawn from the hole **76**. When so withdrawn the spring portion **70** carries the arm portion **72** to a normal, unstrained position substantially at right angles to the post, as shown in FIG. **7**. The post and spring, combined, maintain the flag in the fully spread condition illustrated in FIG. **8**.

It is important that (*a*) the spring **66** be securely anchored in the post, and (*b*) that it be maintained in a desired orientation relative to the post so that the hook portion **74** of the spring may cooperate as described with the hole **76** in the post. To this end, the mounting portion **68** of the spring is wound into a helix of uniform external diameter suitable to fit comfortably within the post end of uniform internal diameter, adjacent turns of the helix being substantially spaced from one another. A short piece **77** of dowel pin stock of precisely the diameter to fit snugly within the helix is placed within the helix and held in place, either by the helix itself, or by a pin which is temporarily inserted in an end of the dowel pin. The fastener member **62** is then screwed into place in the dowel pin, being tightened sufficiently to cause the helix to be clamped firmly against turning.

A dowel pin **78** of larger diameter than the pin **77** is similarly employed in conjunction with the fastener member **64**, the pin being temporarily impaled on a suitable holder and held in appropriate position while the fastener **64** is being screwed into place.

With the flag thus oriented relative to the post, it is evident that the post, fixed against rotation, may be set to hold the flag in any desired orientation, regardless of the direction in which the wind may be blowing.

It should be noted that the flag is put onto the post **60** and the spring arm **72** from the lower end of the post, and with the spring arm held close to the post. After the flag has been so applied the arm may be released for testing, and the arm may then be folded down, extended by straightening and fixed in the down position by inserting the hook **74** into the hole **76**. The hook **74** desirably makes an acute angle with the arm **72**. This is necessary for secure retention. It is also desirable for protecting the hand of the user against scraping or gouging by the hook.

It is also a point of merit that the eye formed by the spring portion **70** of the spring **66** provides a convenient means for storing the flag on a hook, rod, rope or other storing support.

It will also be observed that with any form of the invention disclosed herein, the flag and carrier combination can be applied to the load or otherwise put in place without the need for any tools. There is nothing to lose, and nothing to look for.

I have described what I believe to be the best embodiments of my invention.

I claim:

1. The combination of a signal flag and a carrier therefor comprising, in combination,

a. a flexible flag of suitable size, shape, color and material having a carrier receiving hem along one margin thereof,

b. said flag carrier adapted to have a portion thereof disposed within the hem, and

c. cooperative, separable fastener members secured respectively in spaced end portions of one layer of the hem and in spaced portions of the carrier for affixing the flag in a definite spread relation to the carrier.

2. The combination of claim **1** in which the carrier includes a rigid post, the flag has a second seam, angularly related to the first, and a spring arm is mounted on the post and extends through and beyond said second seam for holding the flag outspread.

3. The combination of claim **2** in which the post is hollow and the spring arm normally extends at right angles to the post but is foldable to a position alongside the post, and has a hook on its free end, the spring arm being somewhat bowed when so folded, and the post having a hole for receiving and retaining the hook, the hole being so situated that the spring arm must be folded and then substantially straightened in order for the hook to enter the hole, and is retained in the hole by the natural bowing of the spring arm.

4. The combination of claim **3** in which the spring arm has an anchoring end in the form of a helical coil which fits the interior of the post and whose turns are substantially spaced from one another, and which further includes a wooden pin fitted within said coil and a screw which has its shank passed

through a wall of the post, between adjacent turns of the spring and threaded into said wooden pin firmly enough to maintain the spring arm clamped in a prescribed orientation relative to the flag and to the hook receiving hole in the post.

5. The combination of claim 1 in which the carrier is a flexible carrier having hooks on its opposite ends, and including an extensible portion normally contained within the flag hem and a link portion which normally extends clear of the flag hem, the carrier being adapted to be wrapped under tension and in a stretched condition about an over-length, vehicle carried load, and the hooks being adapted to be lodged in selected links, one for retaining a portion of the carrier wrapped in a stretched condition around the load and the other for neatly disposing, in looped form, of any surplus length of the carrier.

6. The combination of claim 5 in which the extensible portion of the carrier is a length of bungy cord and the link portion is a metallic link chain.

7. The combination of claim 5 in which the stretchable portion of the carrier normally contained within the flag hem and the link portion which normally extends clear of the flag hem are identical and indistinguishable in structure, both being composed of stretchable material and both taking the form of a succession of connected links.

* * * * *