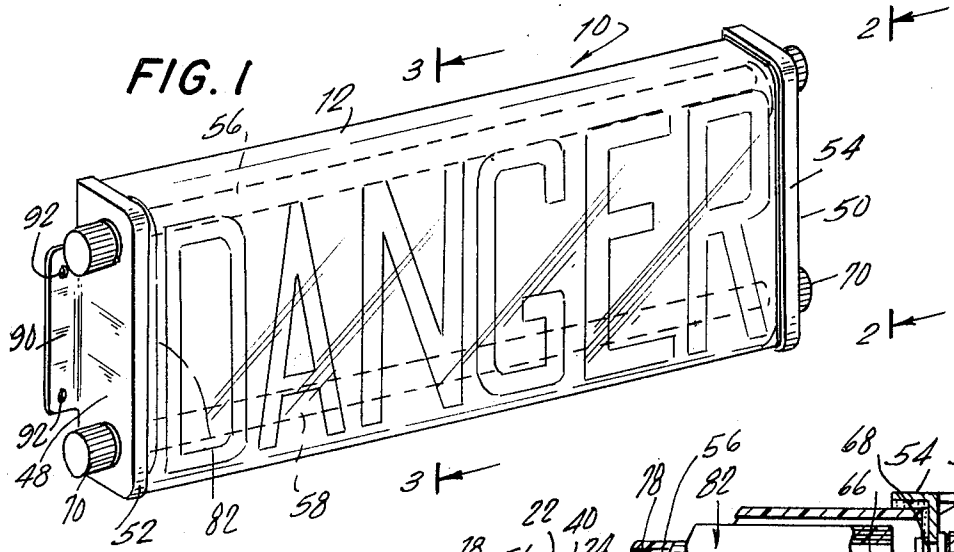
May 26, 1970 P. KLEINMAN 3,513,577

SIGN-HAVING ADJUSTABLE BAND

Filed Feb. 16, 1968

FIG. 1



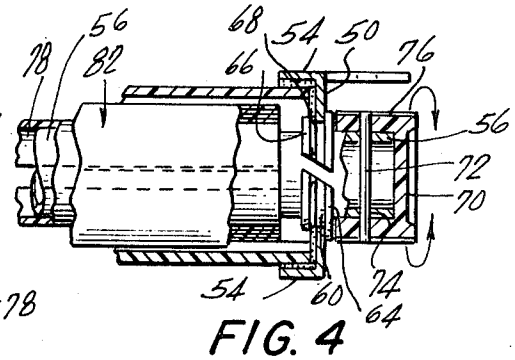




FIG. 4

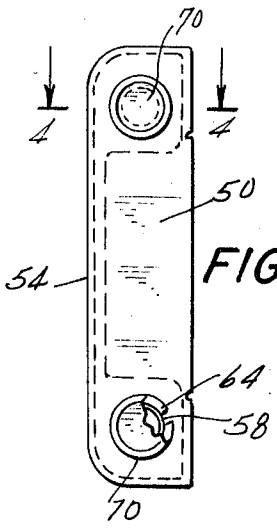



FIG. 2

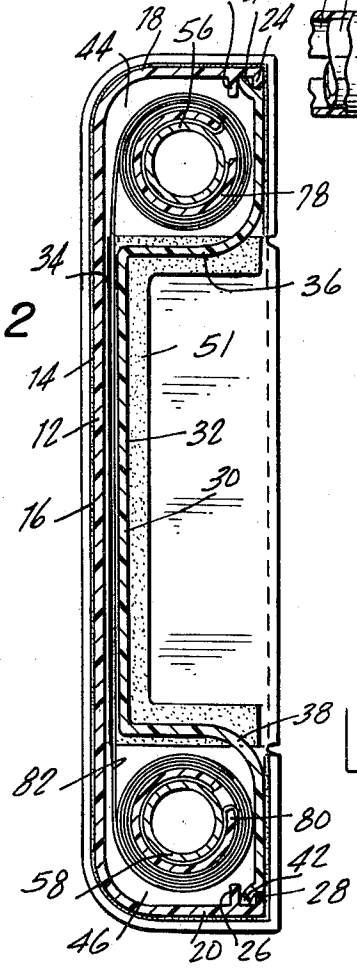



FIG. 3

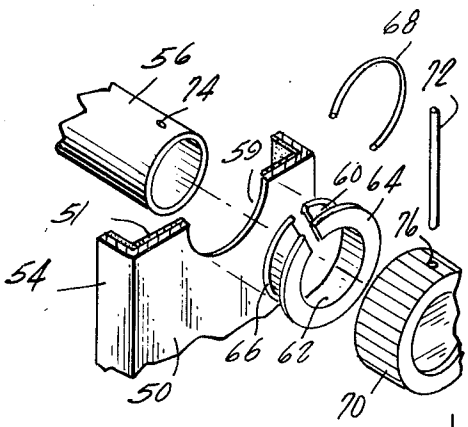



FIG. 5

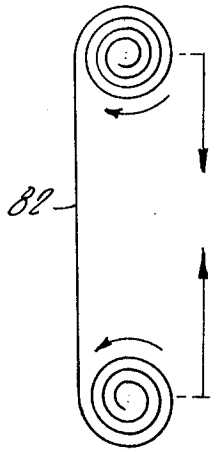



FIG. 6

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3,513,577

# SIGN HAVING ADJUSTABLE BAND

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U.S. Cl. 40—86 3 Claims


## ABSTRACT OF THE DISCLOSURE

A sign comprising a housing having a transparent front section of U-shape in cross section. A rear section is secured to said front section and has a central portion arranged in close proximity to the front section defining a guideway. The rear section has a pair of angle portions integral with the central portion defining in conjunction with the front section a pair of chambers. A pair of plates are disposed on opposite ends of the housing. A pair of shafts are rotatably mounted in the plates with the shafts extending through the chambers. A sign band of stressed self-winding material is secured at its ends to the shafts and has a portion in the guideway. Knob means are provided for selectively rotating the shafts for bringing a selected portion of the band into the guideway for permitting observation thereof through the transparent front section.


This invention relates to a sign for use in complying with the requirements for placarding of motor transports with dangerous cargo, and more particularly to an easily mounted, compact, durable, self-contained device which enables a truck operator to change the markings on a vehicle equipped with this invention at will and without loss of time either at terminals or en route, while also providing for a substantial number of different types of cargo.

An object of this invention resides in the provision of a sign which will enable the changing from one inscription to another in the matter of only a few seconds.

The construction of this invention features a corrosion-resistant sign having a housing of a transparent plastic material which is so arranged that the sign band movably mounted in the housing is itself resistant to dirt and soil and is protected from dirt and weather.

Another object of the invention resides in a provision of a sign which eliminates the necessity of gears, springs or ratchets which are subject to malfunction and rattling due to vibration.

An additional object of the invention resides in the provision of a sign which will provide substantial savings in both the driver's time and in the total cost of material when compared with single use paper or adhesive back placards which may be easily misplaced and thereby subject the truck operator to inadvertent and unintended violations of various requirements and regulations.

These, together with the various ancillary objects and features of this invention, which will become apparent as the following description proceeds, are attained by this sign, a preferred embodiment of which is illustrated in the accompanying drawing, by way of example only, wherein:

FIG. 1 is a perspective view of a sign constructed in accordance with the concepts of the present invention;

FIG. 2 is an end elevational view looking in the direction of arrows 2—2 in FIG. 1;



FIG. 3 is an enlarged vertical sectional view taken along the plane of line 3—3 in FIG. 2;

FIG. 4 is an enlarged horizontal sectional detail view taken along the plane of line 4—4 in FIG. 2;

FIG. 5 is an exploded perspective detail view showing the manner in which the shafts are journalled in the plates; and,

FIG. 6 is a schematic diagram of the sign band.

With continuing reference to the accompanying drawing, wherein like reference numerals designate similar parts throughout the various views, reference numeral **10** generally designates a sign constructed in accordance with the concepts of the present invention. The sign includes a housing **12** having a front section **14** of a molded transparent plastic material of a substantially U-shape in cross section and being provided with a flat front surface **16**, an upper portion **18** and a lower portion **20**. At the end of the upper portion **18** are flanges **22** and **24**, and flanges **26** and **28** are formed at the lower portion **20**.

The housing **12** also includes a rear section **30** having a central portion **32** closely adjacent the flat front **16** and forming a guideway **34** therebetween. The central portion terminates well below the top **18** and well below the bottom **20** and angle portions **36** and **38** integral with the central portion **30** are provided. The uppermost end **40** of the angle portion **36** extends between the flanges **22** and **24** and is bonded thereto preferably in a fluidtight manner. Likewise, the bottommost end **42** of the angle portion **38** is received between the flanges **26** and **28** and is bonded to the front section **12** preferably in a fluidtight manner. The angle section **36** forms, in conjunction with the front section **14**, an upper chamber **44**, and a lower chamber **46** is formed between the angle portion **38** and the front section **14**.

A pair of plates **48** and **50** are provided at the sides of the housing **12**. Disposed between the plates **48** and **50** and the housing are a pair of substantially U-shaped vibration damping members **51** formed of foamed plastic material or other suitable rubber-like or resilient material. The plates **48** and **50** are provided with flanges **52** and **54** and gaskets as may be desired or found necessary may be introduced between the flanges **52** and **54** and the housing **12**.

Shafts **56** and **58** extend through the chambers **44** and **46** respectively, and as can be seen best in FIGS. 4 and 5 extend through the plates **48** and **50** which are provided with suitable holes **59** therethrough. Rotatably mounting the shafts in each of the holes **59** provided in the plates **48** and **50** are split ring thrust bearings **60** which have cylindrical bearing portions **62** and planar bearing portions **64**. A rib **66** extends about the inner periphery of each bearing **60** and inwardly of the plates **48** and **50** for reception of a wire type clip **68** for use in holding the split ring bearing in assembled position and for preventing disengagement of the bearing from within the hole **59** and about the shaft which it journals.

Pairs of knobs **70** on the opposite side of each of the shafts **56** and **58** are used for the first purpose of rotating the shafts **56** and **58** as may be desired. The knobs **70**, further cap the end of the shafts **56** and **58** and are held in place by pins **72** which extend through bores **74** in the shafts and **76** in the knob **70**. The knobs **70** may have an outer surface knurled or ribbed for convenient grasping and rotation thereof. The pins **72** hold the knobs tightly against the planar surface **64** of the thrust bearings which in turn cause the plates to be tightly held against the hous-

ing compressing the vibrating damping means **51** between the plates **48** and **50** and the housing **12**. The plates have detents (not shown) of small size extending into the split of the bearings **60** for preventing rotation thereof. The clip **68** also serves the purpose of rendering the bearing self adjusting for various sized shafts.

A pair of slotted retainer tubes **78** and **80** are provided and hold the ends of a band **82** of stressed self-winding plastic material such as "mylar" to the shafts **56** and **58**. The band **82** has a selected portion intermediate at the ends disposed in the guideway **34** and visible through the transparent front section **14**. The mylar is pre-stressed so that it is self-winding in either direction about the shafts **56** and **58** so that rotation of either the upper shaft or lower shaft can select a certain portion of the band **82** for visual display through the transparent front section **14**. These signs are especially adapted for use by trucks in accordance with certain present Interstate Commerce Commission requirements, for example, may be provided with indicia in various required color inscriptions including the words Poison, Corrosives, Flammable, Dangerous, Drive Safely, Flammable Gas, Compressed Gas, Oxidizers, Radioactive, Explosives A and Explosives B. Of course, the sign may be used for vehicles such as buses or the like to indicate destination or routes and may be used for innumerable other purposes. Its compact design which includes a pair of brackets **90** integrally formed with the plates and having apertures **92** therethrough permits its attachment by rivets, sheet metal screws, bolts or other suitable fasteners to the rear overhead doors of trucks or trailers, or on each of the four sides of a truck, or on any other convenient location.

A latitude of modification, substitution and change is intended in the foregoing disclosure, and in some instances, some features of the invention will be employed without a corresponding use of other features. Accordingly, it is appropriate that the appended claims be construed broadly and in a manner consistent with the spirit and scope of the invention herein.



I claim:

**1.** A sign comprising a housing having a transparent front section of U-shape in cross section, a rear section securing to said front section and having a central portion arranged in close proximity to said front section defining a guideway, said rear section having a pair of angle portions integral with said central portion and defining in conjunction with said front section a pair of chambers, a pair of plates at opposite ends of said housing, a pair of shafts rotatably mounted in said plates, said shafts extending through said chambers, a sign band securing at its ends to said shafts and having a portion in said guideway, knob means for selectively rotating said shafts for bringing a selected portion of said band into said guideway for permitting observation thereof through said transparent front section, thrust bearings journalling said shafts in said plates, said knobs abutting said thrust bearings, means securing said knobs to said shafts so that said knobs in engagement with said thrust bearings hold said plates to said housing, said thrust bearings including split rings provided with cylindrical and planar bearing surfaces, and wire clip means for holding said thrust bearings on said plates.

**2.** A sign according to claim **1**, including vibration damping means disposed between said plates and said housing.

**3.** A sign according to claim **2**, including bracket means for mounting the sign integrally formed with said plates.

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