United States Patent [19]

Miller et al.

[11] **3,831,304**

[45] **Aug. 27, 1974**

[54] **POLE BANNER SIGN CONSTRUCTION**

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[73] Assignee: **The Massillon-Cleveland Akron Sign Company,** Massillon, Ohio

[22] Filed: **Aug. 24, 1972**

[21] Appl. No.: **283,565**

[52] **U.S. Cl.** ..... **40/125 G,** 40/145 R

[51] **Int. Cl.** **G09f 07/18,** G09f 17/00

[58] **Field of Search** ..... 40/125 G, 145 R, 128

[56] **References Cited**

UNITED STATES PATENTS

2,960,785	11/1960	Kies	40/125 G
3,589,048	6/1971	Mollet et al	40/145 R X

FOREIGN PATENTS OR APPLICATIONS

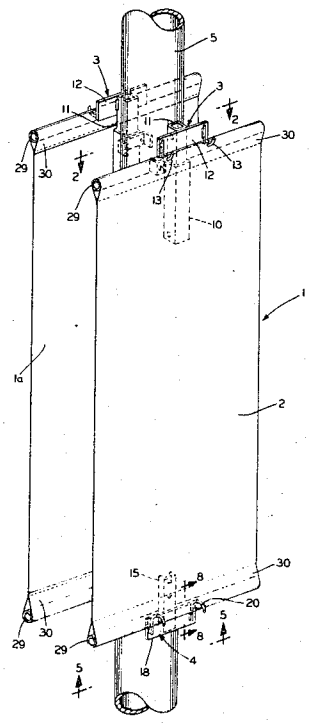
612,320	4/1935	Germany	40/125 G

Primary Examiner—Robert W. Michell
Assistant Examiner—John F. Pitrelli
Attorney, Agent, or Firm—Frease & Bishop

[57] **ABSTRACT**

A pole banner sign construction which has rugged permanent hardware for supporting a flexible banner generally in a fixed position on a pole. The hardware all may be mounted permanently on the pole or all hardware except simple mounting plates at the upper and lower ends of the banner may be removed from the pole. A simple rectangular flexible banner is supported under tension on the hardware and is adapted to be folded into a small package for shipment in an envelope. Rigid pull rods are located in the hems at the upper and lower edges of the flexible banner. The hardware support means at the upper and lower ends of the flexible banner holds the pull rods in parallelism and maintains longitudinal tensional pull on the flexible banner between the rigid parallel pull rods. The hardware in maintaining the pull rod parallelism under tension also holds the pull rods against pivotal movement on, or twisting and turning movement about, the pole. The flexibe banner conceals the hardware behind the banner when the banner is mounted on the pole. A pair of flexible banners may be mounted in the same way on opposite sides of the pole, any banner may be changed from time to time without the use of any tools merely by unhooking several hooks from banner engagement, then transferring pull rods from an initial banner to a replacement banner, and then hooking the replacement banner in place.

3 Claims, 15 Drawing Figures



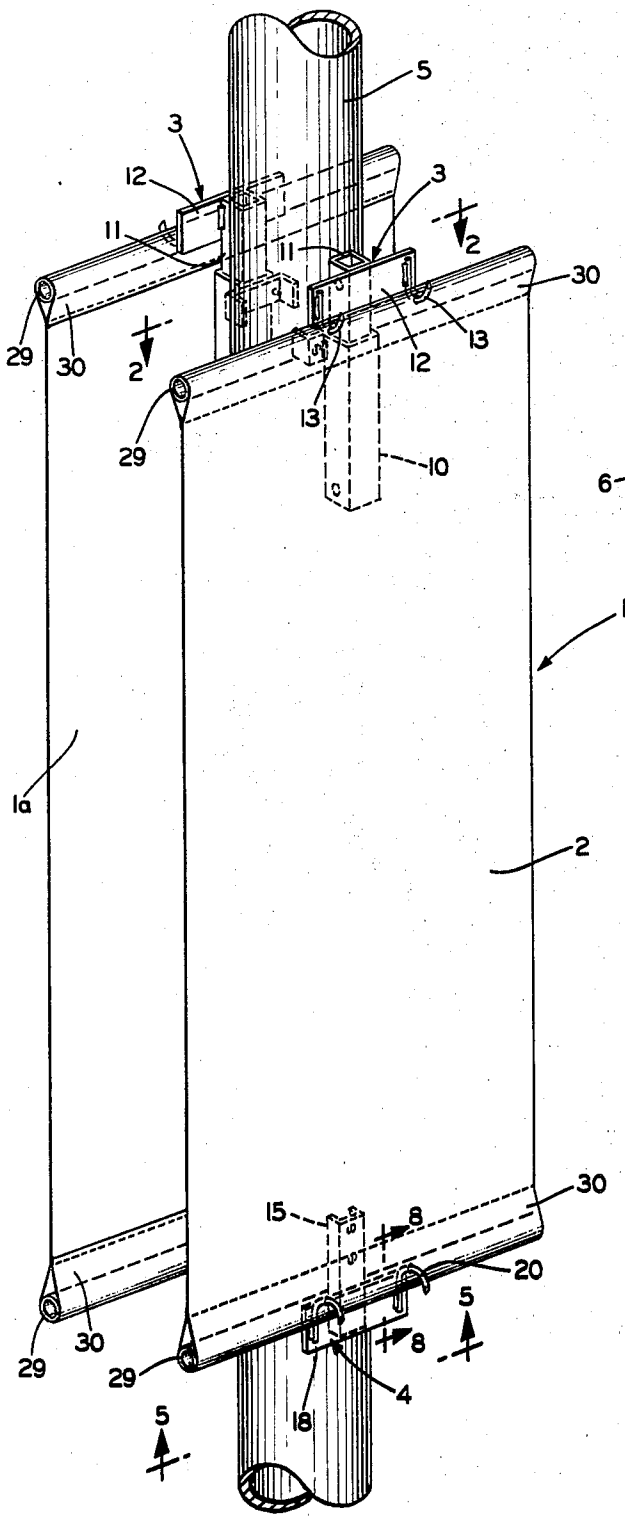


FIG.1

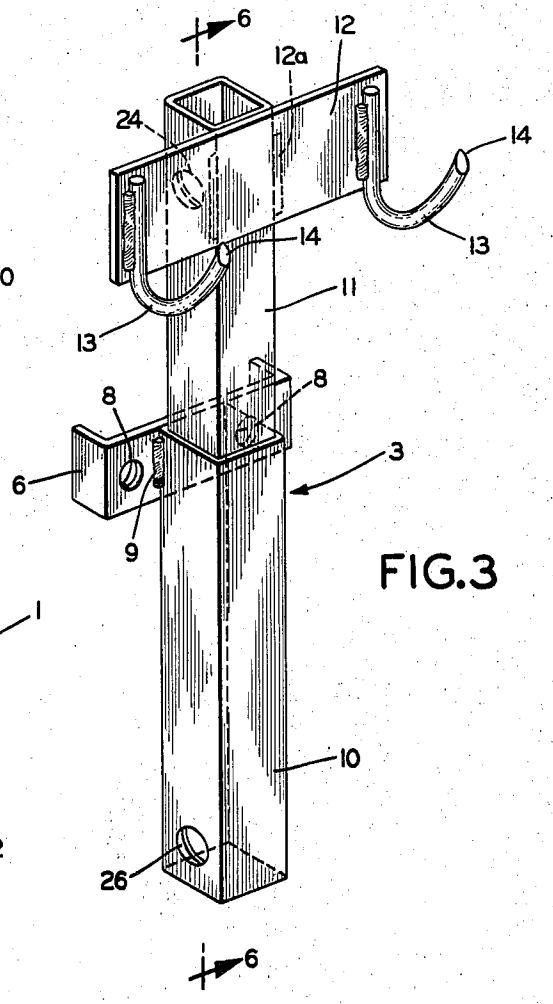
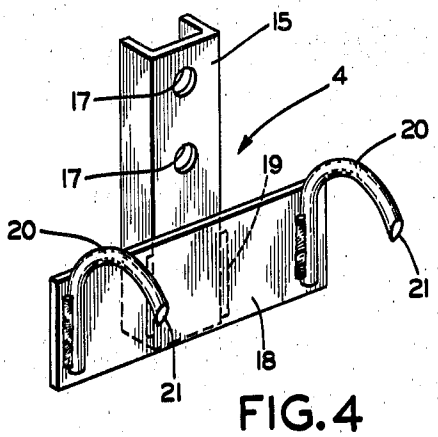


FIG.3



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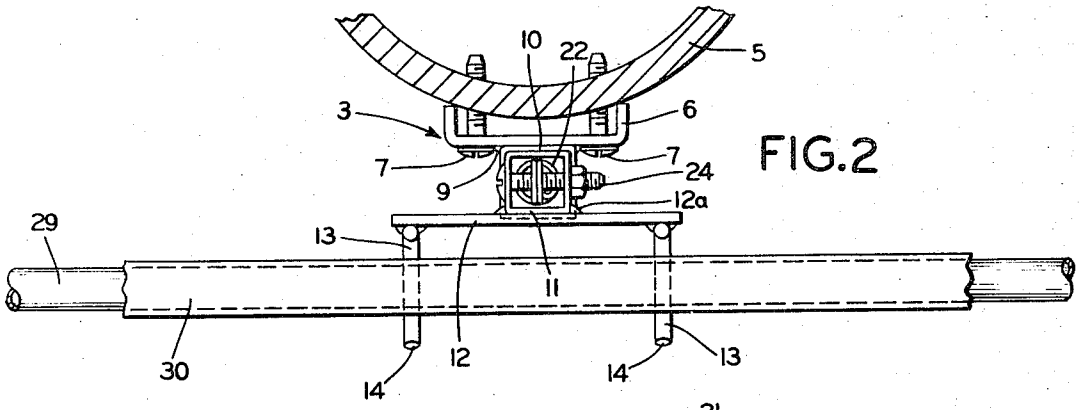

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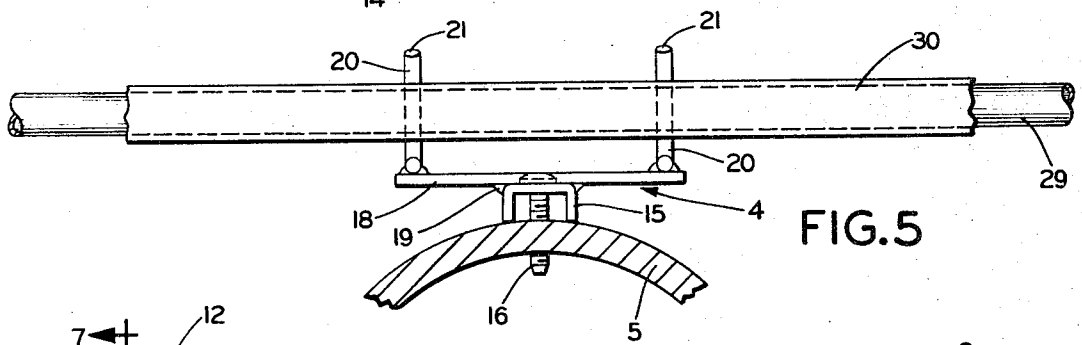

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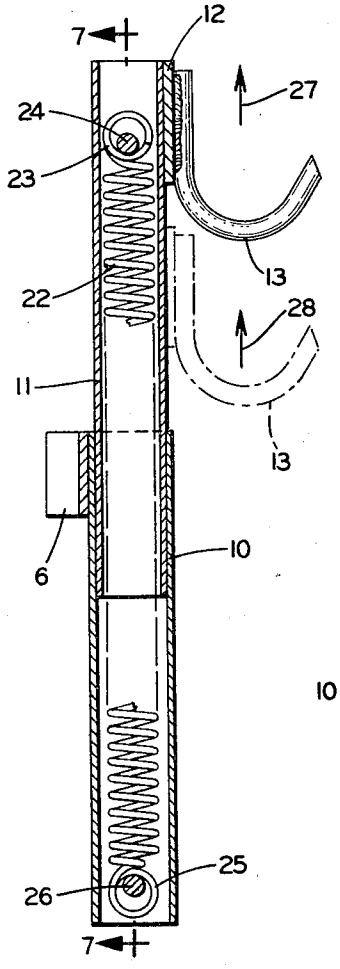


FIG.6

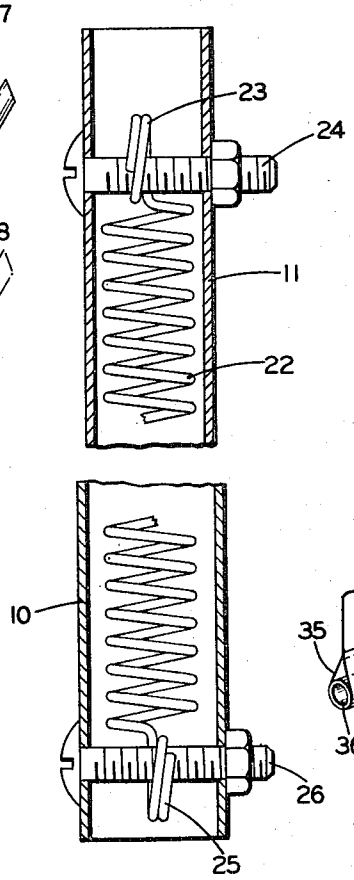
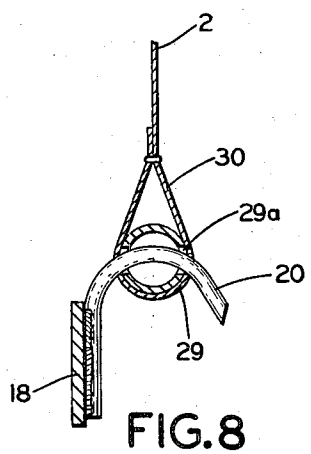


FIG.7



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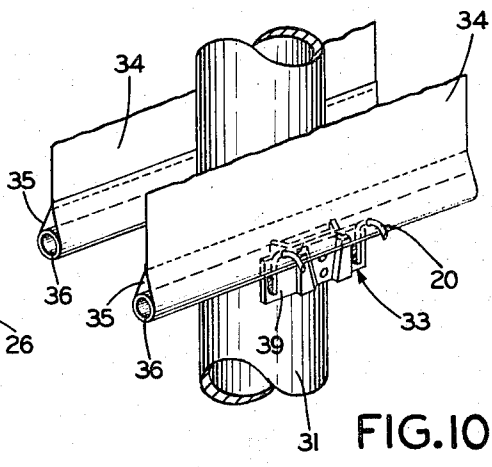

FIG.10

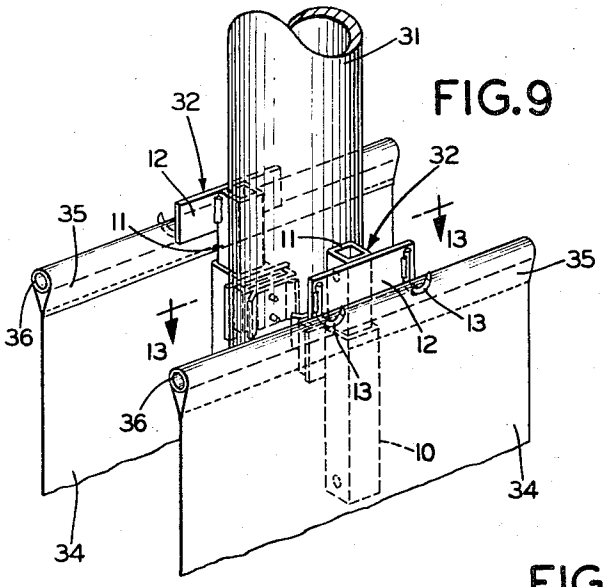

FIG. 9

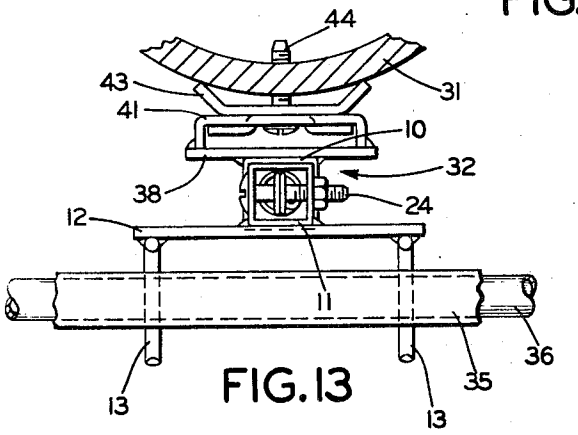

FIG. 13

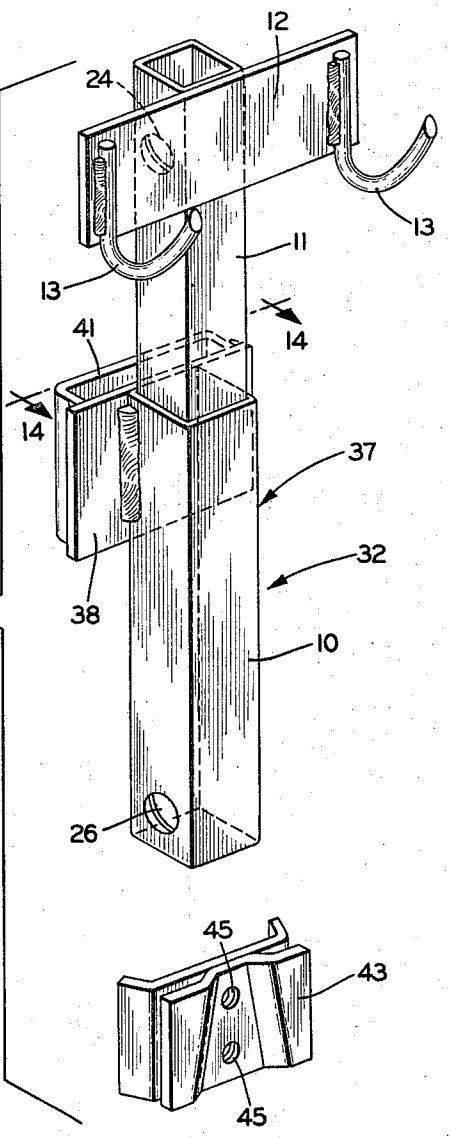

FIG. 11

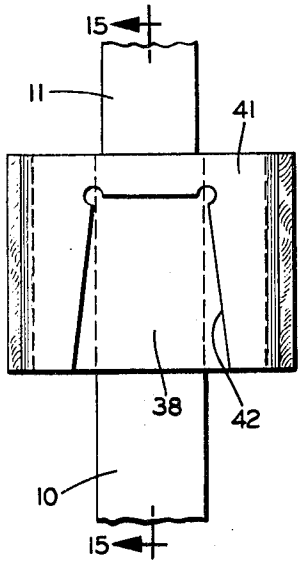

FIG. 14

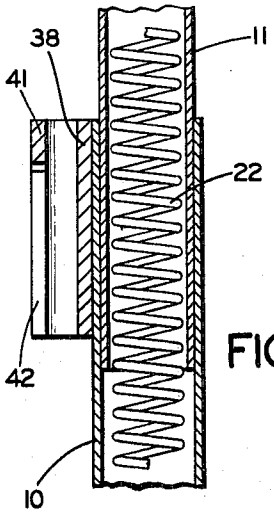

FIG. 15

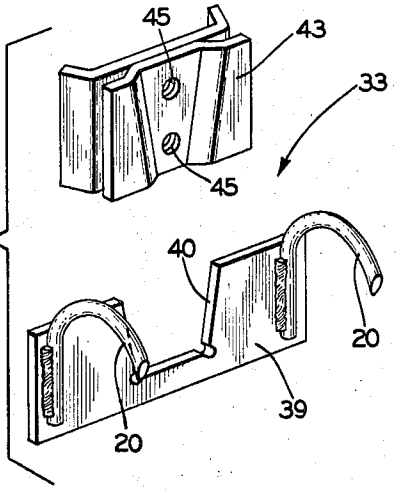

FIG. 12

POLE BANNER SIGN CONSTRUCTION

CROSS-REFERENCE TO RELATED PATENT

The invention involved improvements in the constructions of the pole banner sign shown in Mollet and Friedrichsen U.S. Pat. No. 3,589,048, and in copending Friedrichsen application, Ser. No. 283,100, filed Aug. 23, 1972.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The invention relates to banner display signs mounted on poles. Pole signs historically have been of great marketing importance in the oil and gasoline retail industry as an effective means of attracting the passing motorist to the retail outlet.

Flexible pole signs of the types shown in U.S. Pat. Nos. 2,764,830 and 3,589,048 have been received favorably by the oil and gasoline retail industry and long have served the stated marketing purposes. Such pole signs involve flexible banner members supported at their upper ends and spring tensioned at their lower ends on a pole. The flexible banner members sometimes are tied together with spacer wires at one or both of the top and bottom corners of the flexible banners. The tops of the flexible banners have pivotal connection at the upper pole support means in the device of U.S. Pat. No. 2,764,830, and the lower ends of the banners have pivotal spring tensioned connection with the lower pole support means of the devices of both U.S. Pat. Nos. 2,764,830 and 3,589,048. The flexible banners are detachable for easily changing the banner message from time to time in an advertising campaign wherein a series of signs is displayed.

2. Description of the Prior Art

The early design of such pole signs as are shown in U.S. Pat. No. 2,764,830, contemplated that substantially all of the hardware for pivotally supporting and tensioning the flexible banners should be permanently mounted. However, poorly engineered systems, improper installations, rusting hardware, etc. have resulted in the majority of oil companies preferring temporary pole sign systems wherein new hardware is installed with each pole sign installation.

However, even with temporary systems there is a weak link in that the dealer who installs the system may do so improperly. He may provide too much or not enough tension on the flexible banners which display the sign message. He may not have removed all old hardware from the pole with the possibility that the old hardware may poke holes in the new flexible sign banners.

These considerations have led to long periods of testing of many permanent and temporary hardware systems for flexible pole signs, and to testing of various flexible banner and hardware arrangements and mountings, for determining the best way in which to resist injury, damage or destruction of the flexible banners by the infinitely varying weather conditions to which the signs may be subjected.

In the past, testing of the effect of weather conditions on various sign structures has involved long and time-consuming tests without always necessarily subjecting the signs to the worst weather conditions that can occur. That is, heretofore, testing has been accomplished by erecting various pole sign structures on the roofs of buildings or at other open test areas, so that the sign is

exposed to the weather conditions that may occur during the test period, which may run from months, or even may run for more than a year. Such prior open area testing heretofore has been relied on as the best means of determining the characteristics of pole sign constructions. At best, the results of such tests are limited to the actual changing weather conditions encountered during the test, regardless of the length of testing time involved; and particularly to the velocity of winds or kinds of wind, rain, snow or ice storms, that occurred during the testing period.

Recently a completely new testing procedure has been discovered by which any flexible pole sign structure and mounting may be tested under the worst possible weather or wind conditions in a very short time period of hours or days rather than months or years. Such new testing procedures can be carried out in a few hours or a few days, to subject the signs to wind velocity conditions from any direction, that may exceed 100 miles per hour, as related to the pole sign construction undergoing test.

Information obtained by such tests has indicated that sign constructions such as shown in U.S. Pat. No. 3,589,048, are the least desirable from the standpoint of resisting damage by weather and wind conditions. This defect was discovered to arise because the flexible banner components are rigidly held at the top, but pivotally tensioned at the bottom. With such construction the top corners of the flexible banner material are subjected to a great amount of torque when blown by wind gusts, which may tear the banner material at the banner corners.

Further, it was discovered by such tests that when both the upper and lower ends of the flexible banner components are pivotally connected to the pole support means as in U.S. Pat. No. 2,764,830, as well as in sign structures such as shown in U.S. Pat. Nos. 2,882,630, 2,893,147, 3,310,899 and 3,581,420, torque at the corners of the flexible banners is relieved somewhat, and the flexible banners can, by twisting motion around the pole dump heavy wind gusts.

However, relative twisting and pivoting of the upper with respect to the lower supports can subject the flexible banners to some torque loading.

That is, the devices of U.S. Pat. No. 2,764,830, wherein the flexible banner components are pivotally supported at their upper and lower ends on the pole under tension, and wherein the corners of two opposite flexible banner components are tied together by spacer wires, are less subject to damage from wind and weather conditions than devices of U.S. Pat. No. 3,589,048, wherein the two flexible banner components are rigidly mounted at their uppr ends on the pole and pivotally tension supported at their lower ends on the pole.

The new testing procedures led to the further discoveries that most materials from which the flexible banners are made, are strong enough in themselves to withstand the heaviest wind gusts, if all torque effect on and twisting of the flexible banners is eliminated. We have discovered that this may be accomplished by holding the upper and lower ends of the flexible banner material in fixed headers, while at the same time maintaining sufficient spring tension on the flexible material to accommodate stretch and billowing factors or forces on the material.

These discoveries have led to a complete change in the requirements for and engineering of flexible pole sign constructions and systems to avoid failures, to provide for changing the flexible banners to change messages, and to provide designs of various kinds of hardware most acceptable to particular purchasers, installers or users of pole signs.

The construction shown in said copending Friedrichsen application Ser. No. 283,100 satisfies these requirements but some purchasers of pole signs prefer to have the permanent hardware used in supporting a flexible banner concealed to a greater extent than such hardware is concealed in the device of said copending application.

Thus, a need has been presented, as a result of the stated discoveries, for rugged, permanent hardware having the beneficial characteristics of the construction of U.S. Pat. No. 3,589,048, while avoiding the disastrous torque difficulties encountered in the use thereof, such that flexible banners may be tensioned in position on a pole with hardware that may be permanently mounted on a pole or may include components that may be removed when not in use, and which readily may be ueed to change flexible banners from time to time without the use of any tools; and a construction wherein the flexible banners, per se, may be folded in a small, conveniently handled package for envelope shipping in order rigidly to mount and display successively a series of different flexible banners on the hardware to carry out an advertising campaign, while eliminating torque loading on the corners of the flexible banners incident to heavy wind gusts; and a construction wherein, the signs when installed on a pole substantially conceal all hardware behind the flexible banners.

SUMMARY OF THE INVENTION

Objectives of the invention include providing a pole banner sign construction which releasably suspends and mounts a flexible material rectangular banner member or component in tensioned condition extending vertically on a pole with the flexible banner located between concealed upper and lower hardware suspension or support means of a permanent nature, and which holds and maintains fixed parallelism of rigid pull rods carried by the top and bottom hems of the flexible rectangular banner, while holding the pull rods against pivotal movement on or twisting or turning movement about the pole to avoid torque loading of the flexible banner material at the corners thereof, and while at the same time maintaining a longitudinal tensional pull on the flexible rectangular banner between the rigid pull rods; providing such permanent suspension or support means hardware with its principal components selectively permanently or removably mounted on the pole; providing a construction with which successive flexible banners may be mounted to replace one with another without the use of any tools; providing a construction in which the permanent hardware hich rigidly holds and maintains the banner pull rods in parallelism at both ends of the flexible banner member involves only the engagement of the flexible banner material and pull rods by hook members which extend through holes in the pull rods in mounting the flexible banner on the hardware, and in turn, on the pole; providing a construction in which the flexible banner tensioning device is located at and pulls the upper end of the flexible banner upward; and providing a construction which achieves minimum shipping costs for replacement flexible banner members, by the use of banner member components which may be folded to small package size and shipped in relatively small envelopes.

These objectives and advantages may be obtained by the pole banner sign construction, the general nature of which may be stated as including the combination of a flexible banner member generally rectangular in shape, formed of foldable cloth, fabric or plastic material having a hem at each of its upper and lower edges; a rigid, preferably metal, rod or tube pull stick member removably contained in the hem at each upper and lower banner edge; upper and lower hardware support and tensioning means adapted to be mounted on a pole for suspending the banner component; the upper and lower support means each comprising a mouting plate adapted to be permanently mounted on the pole; the upper support means also including a tensioning plate and spring-tensioning means connected between the tensioning plate and the upper mounting plate, a pair of spaced hooks on the tensioning plate engageable with the hemmed edge and pull rod at the upper end of the flexible banner member and adapted to apply upwardly-directed tension to said upper flexible banner end; the lower support means also including a suspension plate having a pair of spaced hooks engageable in fixed position with the hemmed edge and pull rod and extending through pull rod holes at the lower end of the banner member; the upper tensioning plate and lower suspension plate being adapted selectively to be permanently or removably mounted on their respective permanently mounted upper and lower mounting plates; the fixed hook engagement between the flexible banner and the upper and lower pull rods maintaining the pull rods in parallelism; and the upper and lower support means each being substantially concealed behind the flexible banner.

BRIEF DESCRIPTION OF THE DRAWINGS

Preferred embodiments of the invention — illustrative of the best modes in which applicants have contemplated applying the principles — are set forth in the following description and shown in the drawings and are particularly and distinctly pointed out and set forth in the appended claims.

FIG. **1** is a perspective view of the improved pole banner sign construction of the present invention;

FIG. **2** is an enlarged fragmentary sectional view, looking down on the top of the pole sign in the direction of the arrows **2—2**, FIG. **1**;

FIG. **3** is a perspective view on an enlarged scale showing the upper support and tensioning means detached from the pole of FIG. **1**;

FIG. **4** is a view similar to FIG. **3** of the lower support and tensioning means detached from the pole of FIG. **1**;

FIG. **5** is an enlarged fragmentary bottom sectional view, looking up toward the pole sign in the direction of the arrows **5—5**, FIG. **1**;

FIG. **6** is a longitudinal sectional view taken on the line **6—6**, FIG. **3**, showing the upper hardware support and tensioning means;

FIG. **7** is an enlarged sectional view taken on the line **7—7**, FIG. **6**, with parts broken away;

FIG. 8 is a fragmentary sectional view looking in the direction of the arrows 8—8, FIG. 1;

FIG. 9 is a view similar to the upper end of FIG. 1 showing a modified form of construction;

FIG. 10 is a view similar to the lower end of FIG. 1 showing the lower end of the modified construction illustrated in FIG. 9;

FIG. 11 is an exploded perspective view of the two components of the upper support and tensioning means illustrated in FIG. 9;

FIG. 12 is an exploded perspective view of two components of the lower support and tensioning means shown in FIG. 10;

FIG. 13 is a fragmentary sectional view on an enlarged scale looking down on the top of the sign in the direction of the arrows 13—13, FIG. 9;

FIG. 14 is a fragmentary view of the mount-engaging plate of the support means of FIG. 11 looking in the direction of the arrows 14—14, FIG. 11; and

FIG. 15 is a sectional view looking in the direction of the arrows 15—15, FIG. 14.

Similar numerals refer to similar parts throughout the various figures of the drawings.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

First Embodiment

The improved pole banner sign construction is indicated generally at 1 and includes a generally rectangular flexible banner member 2 and upper and lower support and tensioning means, generally indicated at 3 and 4, respectively for suspending the flexible banner 2 on the pole 5 under tension. One pole banner sign 1 (FIG. 1) is mounted on one side of the pole 5, and a similar pole banner sign 1*a* may be mounted in identically the same manner on the other or opposite side of the pole 5 completely searate from and unconnected with the pole banner sign 1.

The upper support means 3 has a mounting plate 6 which may be U-shaped and is adapted to be permanently mounted on the pole 5 (FIG. 2) by screws 7, engaged through holes 8 in plate 6. The screws 7 may be of the self-tapping type and are driven into holes drilled in the pole 5 with a socket wrench or may be driven into the pole 5 with an electric torque wrench, the screws 7 drilling their own holes and threading into the pole.

Mounting plate 6 is welded at 9 to the upper end of an outer tubular member 10, rectangular in cross section, which forms a part of the tensioning means housing of the upper support means 3. An inner tubular housing member 11 is telescopically recessed within the outer tubular member 10 and is also rectangular in cross section for sliding movement within member 10. A tensioning plate 12 is attached, preferably by welding at 12*a*, to the upper end of inner tubular member 11, and plate 12 has fixed thereon a pair of spaced hooks 13 with sharpened upwardly directed points 14.

The lower support means 4 comprises a channel-shaped lower mounting plate 15 which may be permanently mounted on the pole 5 (FIG. 5) by screws 16 engaged through holes 17 in plate 15 in a manner similar to that described concerning the mounting of upper mounting plate 6 on pole 5.

The lower support means 4 also includes a suspension plate 18 preferably welded at 19 to lower mounting plate 15 and suspension plate 18 has fixed thereon a pair of spaced hooks 20 with sharpened downwardly directed points 21.

A coiled spring 22 is housed within the telescoped tubular members 10 and 11, and the upper end 23 of spring 22 is connected by bolt 24 with the upper end of inner tubular member 11 (FIGS. 6 and 7) while the lower end 25 of spring 22 is connected by bolt 26 with the lower end of outer tubular member 10.

When at rest, in untensioned condition, the parts are in the position shown in full lines in FIG. 6. When the tensioning plate 12 is pushed downward, as shown by the arrow 27 in FIG. 6, the inner tube 11 is telescoped into the outer tube 10 to move the hooks 13 to the dot-dash position shown, thus compressing spring 22 which is confined within the telescoped tubular members 10 and 11 which act as a housing for the spring. The compressed spring 22 when the parts are in the dot-dash condition of FIG. 6, supplies tension to the hooks 13 acting in a direction indicated by the arrow 28 opposite the direction of the arrow 27, which indicates the banner tensioning loading of spring 22 under compression.

When the flexible banner 1 is mounted on the pole 5, pull rods 29, which may be metal rods or metal tubes, are inserted in the upper and lower hems 30 formed at the upper and lower ends of the flexible banner 2, and the lower hem and pull rod is engaged by the hooks 20 of the lower support means, with the hooks 20 engaged through holes 29a in the pull rod 29, as shown at the lower end of FIG. 1 and in FIG. 8. The upper support tensioning means formed by the inner and outer tubes 11 and 10 and connected coil spring 22, then is loaded to energize the tensioning means by moving the inner tube 11 in the direction of the arrow 27, to a position to engage the upper pull rod and upper hem of flexible banner 2 with the hooks 13 of the upper support means 3 mounted on pole 5, as shown at the upper end of FIG. 1. The inner tube 11 is then released so that tensioning force is applied in the direction of the arrow 28 to the upper end of the flexible banner 2 to tension and stretch the same taut on pole 5.

The flexible generally rectangular banner 2 may be formed of foldable cloth, fabric, or plastic material with the hem 30 formed at each of its upper and lower edges; and banner 2 may be imprinted with, or otherwise display an advertising sign or message on its surface facing outwardly with respect to the pole, viewing FIG. 1.

The flexible banner 2 thus mounted is suspended and tensioned on the pole 5 between its fixed lower and controlled upper edges. The lower end of the flexible banner 2 is held in the rigid, fixed position shown by the lower pull rod 29. Pivotal movement of the lower banner end with respect to the pole 5, or swinging movement thereof around the pole, is prevented by the fixed position of the lower pull rod, and the hook engagement in the pull rod holes 29a.

Similarly, the upper tensioning plate 12 and spaced hooks 13 thereon, engaged with the upper pull rod holes 29*a*, hold the upper end of the flexible banner 2 against any pivotal movement with respect to the pole 5 or any swinging movement around the pole. The upper and lower pull rods 29 thus are maintained in parallelism against any relative movement excepting tensioned vertical movement of the upper pull rod downward toward the lower pull rod.

Such tensioned relative movement between upper and lower pull rods **29** can occur if wind blows the flexible banner **2** to billow it outward or inward with respect to the pole **5.** Such blowing or billowing of banner **2** is resisted by the tension of the upper support means **3** which returns the banner to a taut position, as shown in FIG. **1,** when the wind gust subsides.

One fundamental aspect of the invention involves maintaining parallelism of the upper and lower pull rods **29** engaged with the upper and lower pull rod holes **29***a* and hems **30** of the flexible banner **2** so that there can be no relative movement of one portion of the banner **2** with respect to the pole **5,** or between the pull rods and hooks, or between the pull rods and the pole excepting for billowing of the banner **2** and vertical movement of the upper pull rod **29** with respect to the lower pull rod in parallel relation. This control prevents torque forces from being imparted to the flexible member **2** at its top and bottom corners which in prior structures has resulted in tearing of, and damage to, the flexible banner **2** from windstorms, weather, etc.

Second Embodiment

The sign construction and mounting thereof on a pole **31** shown in FIGS. **9** to **15,** are substantially the same in construction, operation and mounting as that shown in FIGS. **1** to **8** excepting that the upper support means **32** and lower support means **33** comprise components removably mounted on the pole rather than permanently mounted, as shown in FIGS. **1** to **8.**

The modified construction used to mount a flexible banner **34** on either side of the pole **31** with end hems **35** and pull rods **36,** as shown in FIGS. **9** and **10,** includes a tensioning means assembly generally indicated at **37** (FIG. **11**) similar to that shown in FIG. **6** excepting that the outer tube **10** has a mount-engaging plate assembly **38,** and the lower suspension plate **39** has a trapezoidal slot **40** formed therein. The channel member **41** of mount-engaging plate assembly **38** also has a trapezoidal slot **42** formed therein (FIGS. **14** and **15**).

Upper and lower mounting plate means **43,** adapted to receive the trapezoidally slotted members **39** and **41** in wedge-supporting relation, are permanently mounted in spaced relation on the pole **31** by screws **44** engaged through holes **45** in members **43** and driven into pole **31.**

In this manner the hardware for the modified construction shown in FIGS. **9** through **15,** excepting for the mounting plates **43,** may be removed from the pole **31** when no banner is supported thereon. Otherwise, the construction and operation of the modified form of construction shown in FIGS. **9** through **15** is the same as that shown in FIGS. **1** through **8.**

The same fundamental aspect of the invention involved in maintaining parallelism of the upper and lower pull rods **29** with respect to the construction of FIGS. **1** through **8** also is present in the construction shown in FIGS. **9** to **15** so that only tensioned relative movement between the upper and lower pull rods **36** can occur if wind blows the flexible banner **34** to billow it outwardly or inwardly with respect to the pole **31** while preventing torque forces from being imparted to the flexible banner **34.**

IN GENERAL

It is usual, as shown in FIGS. **1, 9** and **10,** to mount two banners back to back on any pole to display signs suspended from the pole in opposite directions. This is accomplished in each form of the invention shown by mounting the upper and lower support and tensioning means on the pole in properly spaced relation.

Another aspect of the invention is of fundamental importance, viewing FIGS. **1, 9** and **10,** in that all hardware is substantially concealed by the flexible banners **2** or **34** when the pole signs are mounted on the pole, only the upper or lower edge portions of the tensioning plates or suspension plates being visible.

This feature satisfies requirements of certain customers who do not wish visible hardware when the sign displays are erected for an advertising campaign.

A third aspect of the invention is the permanence of all of the hardware. Thus, when an advertising campaign is being carried out and a series of advertising messages displayed one after another from poles **5** or **31** located at service stations, in accordance with the invention only the flexible banners **2** or **34** are replaced. The replacement is readily accomplished merely by unhooking the flexible banners **2** or **31** from the hooks **13** or **20,** then by removing pull rods **29** or **36** from the banners to be discarded, then by inserting the pull rods into the hems of the replacement banners, and then by suspending the new banners on the hooks by engaging the hooks in the pull rod holes and through the banner material at the upper and lower support means.

No tools of any nature whatsoever to make such a change are needed, all hardware being present and remaining on the pole during such change.

If a campaign is terminated and no new banner is to be displayed from the pole for a period of time, the banners are removed. In the case of the construction shown in FIGS. **1** through **8,** all the hardware remains permanently on the pole excepting the pull rods which will be stored at the service station until the next advertising campaign takes place. In the case of the hardware shown in FIGS. **9** through **15,** all of the hardware including the pull rods and upper and lower support means **32** and **33** is removed from the pole and stored at the service station with only the mounting plates **43** remaining on the pole.

Another aspect of the invention is the cooperative relation of the spring tensioning device of FIGS. **6** and **7** used in both forms of the invention as related to the concealment of the hardware. The spring tensioning device including the telescoping tubes **10** and **11** and the spring **22** contained therein when not tensioning a flexible banner does not have a spring under stress. Thus, a simple tension spring **22** is used but is converted into a compression spring when loaded or energized in the dot-dash position of FIG. **6,** and the spring is confined within the telescoping tubular members **10** and **11** acting as a housing. This permits the spring housing to be concealed behind the banner, to be energized, and to exert its maximum tensional pull on the banner when stretching the banner to taut position.

The cooperative relation between the tensioning device and hardware concealment also involves locating the tensioning device at the upper ends of the banners rather than at the lower ends which has been normal in prior art structures.

Accordingly, the new pole banner sign construction provides a sign which incorporates advantageous characteristics of prior art pole banner sign structures while eliminating undesirable flexible banner damaging

torque characteristics; provides a construction utilizing permanent hardware in which only the flexible banners per se are changed and discarded to change signs; provides a construction in which rigid pull rods located in hems at the ends of a flexible banner are mounted with one end fixed in position on a pole and with the other end controlled so that such other end can move only vertically with respect to the pole in parallelism with the one pull rod; provides a construction in which the flexible banner mounted on and controlled as indicated may be tensioned to compensate for and absorb the force of wind tending to blow the flexible banner out of stretched, taut position, and to billow the flexible material; provides a flexible banner which may be mounted to achieve the stated advantages and which may be folded into a small package and shipped in an envelope to a place of use; provides a construction in which the permanent hardware is substantially concealed by the flexible banners when the banners are mounted on a pole, and in which the permanent hardware may be retained in its entirety mounted on the pole, or may be substantially removed and stored between periods of use; provides a construction in which the spring tensioning devices, concealed by the banners, are located at the upper ends of banners mounted on a pole; provides a new construction which may be mounted readily on any kind, type, size or material of existing pole; and provides a construction eliminating difficulties that have characterized prior devices and which solves problems which have been discovered to exist in the art.

In the foregoing description, certain terms have been used for brevity, clearness and understanding; but no unnecessary limitations are to be implied therefrom beyond the requirements of the prior art, because such terms are used for descriptive purposes and are intended to be broadly construed.

Moreover, the description and illustration of the invention is by way of example, and the scope of the invention is not limited to the exact details shown or described.

Having now described the features, discoveries and principles of the invention, the manner in which the improved pole sign construction is constructed and used, the characteristics of the new construction, and the advantageous, new and useful results obtained; the new and useful structures, devices, elements, arrangements, parts and combinations are set forth in the appended claims.

We claim:

1. In pole sign construction of a type in which a flexible banner is removably suspended and tensioned on a pole, in which the flexible banner is formed with a hem at each of its upper and lower edges, and in which rigid pull rod means is removably mounted in each hem; the combination of hardware support means adapted to be mounted at spaced upper and lower locations on the pole for suspending the flexible banner; the upper and lower support means including upper and lower mounting plates adapted to be mounted in fixed spaced relation on the pole; the lower support means also including a rigid suspension plate mounted on one of the mounting plates, a pair of spaced hooks mounted on the suspension plate engageable in fixed position with the hemmed edge and pull rod at the lower end of the flexible banner; the upper support means also including a rigid tensioning plate having a pair of spaced hooks mounted thereon engageable in fixed position with the hemmed edge and pull rod at the upper end of the flexible banner; said upper support means also including spring-tensioning means connected to and applying tension between the tensioning and mounting plates; said spring-tensioning means including inner and outer telescoped tubular members rectangular in cross section with said inner tubular member projecting upwardly outwardly from the upper end of the outer tubular member; the tensioning plate with its fixed pair of hooks being mounted on the upper end of the inner tubular member and the upper mounting plate being connected to the upper end of the outer tubular member; a coil spring housed within the telescoped tubular members with one end of the coil spring being connected with one tubular member and with the other end of the coil spring being connected with the other tubular member; the coil spring being a compression spring and normally biasing the inner telescoped tubular member out of the outer tubular member; the rectangular telescoping tubular members forming means controlling tensioned movement of the tensioning plate in a single vertical plane passing through the tensioning and suspension plates; the fixed hook engagement between the ends of the flexible banner and the two pull rods maintaining the pull rods in parallelism; the parallel pull rods extending in directions parallel with said plane and perpendicular with the direction of movement of the tensioning plate; and the spring tensioning means and upper mounting plate extending behind and being concealed by the flexible banner when the banner is mounted on the upper and lower support means.

2. The construction defined in claim **1** in which the rigid suspension plate is removably mounted on the lower mounting plate; in which the upper support means also includes a mountengaging plate to which the spring tensioning means is connected; and in which the mount-engaging plate is removably mounted on the upper mounting plate.

3. The construction defined in claim **2** in which the suspension and mount-engaging plates each are removably wedge-mounted on their respective mounting plates.

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