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TENT-SUPPORTING CONSTRUCTIONS

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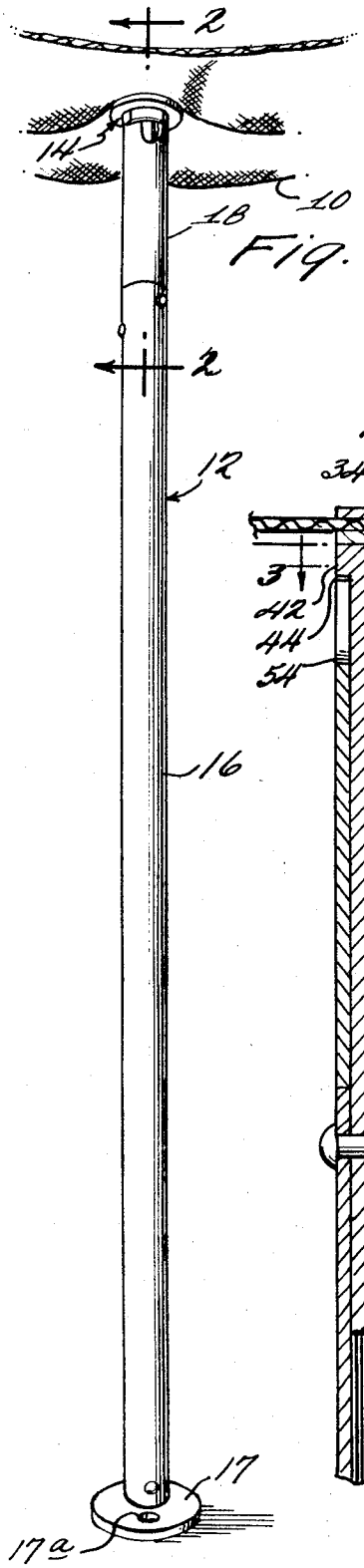



FIG. 1

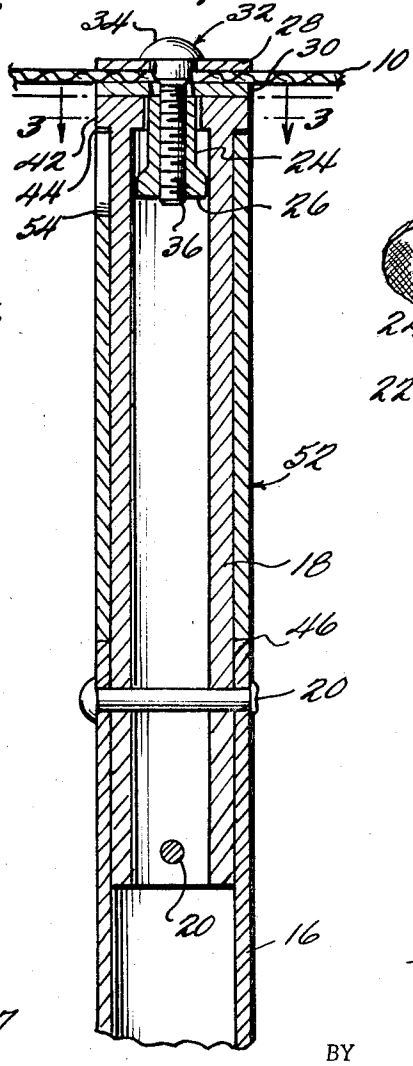



FIG. 2

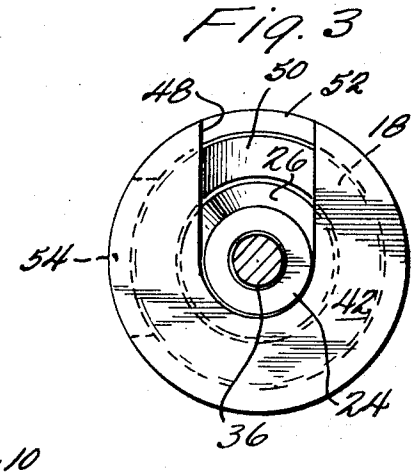



FIG. 3

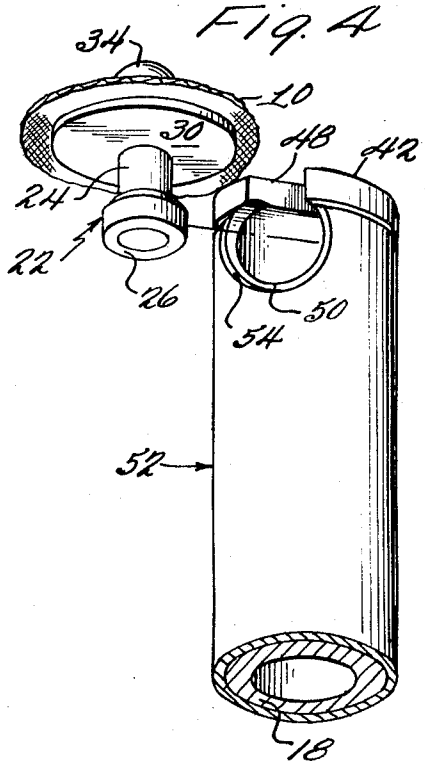



FIG. 4

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# TENT-SUPPORTING CONSTRUCTIONS

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## ABSTRACT OF THE DISCLOSURE

The invention concerns improved means for connecting the material of a tent to a supporting pole therefor, which includes a coupling element secured to and depending from the underside of the tent material and having a shank and an enlarged head at the lower end thereof, a pole having a side aperture adapted to laterally receive the coupling element, a member on the upper end of the pole having a slot communicating with the side aperture in the pole for receiving the shank of the coupling element but preventing passage of the enlarged head of the coupling element therethrough, and a retaining sleeve rotatably mounted on the pole and having an aperture opening through the upper end thereof and adapted to register with the side aperture and end slot in the pole in one position of rotation of the sleeve to permit the coupling element to be inserted in and withdrawn from the pole and in another position of rotation closing the side aperture in the pole to prevent disconnection of the coupling element from the pole.

The present invention relates to tent constructions and more particularly to improved means for connecting the tent material to the supporting pole or poles therefor.

Connecting means of the general type disclosed herein, which includes essentially a coupling element secured to the tent material and depends from the underside thereof for reception in the slotted upper end of the supporting pole, are known. One such connecting means or connector is shown in the Rogers patent No. 2,495,423. However, the Rogers construction is far from satisfactory in that it is very difficult to orient the coupling element with respect to the pole to effect the desired connection therebetween, and furthermore no means are provided for preventing the unintentional disconnection of the coupling element from the supporting pole under adverse weather conditions, such as high winds, and heavy snow and rain falls.

Therefore, the primary object of the instant invention is to provide means by which the connection between the tent material and the supporting pole therefor may be expeditiously effected.

Another object of the present invention is to provide connecting means between the tent material and the supporting pole which precludes unintentional disconnection of the former from the latter regardless of weather conditions.

A further object of the invention is to provide connecting means between the tent material and its supporting pole or poles which includes a coupling element that is laterally rockable and longitudinally movable in respect to the pole to provide flexibility in the connecting means to prevent damage to the tent material under adverse weather conditions.

Other objects and advantages of the present invention will be apparent from the following detailed description of the preferred embodiment thereof when considered in conjunction with the accompanying drawing, in which:

FIGURE 1 is a side view of the entire pole construction showing generally its interconnection with the tent material.



FIGURE 2 is a fragmentary vertical sectional view showing the connecting means, the tent material and the pole to which the material is connected.

FIGURE 3 is a top plan view, in partial cross-section along the line 3—3 of FIGURE 2 and looking in the direction of the arrows.

FIGURE 4 is an exploded view showing the pole and the connecting means just prior to interconnection of the tent material with the pole.

With continued reference to the drawing, the present invention relates to a tent constructed of flexible material **10**, such as canvas, supported by a pole **12**, and means generally designated by **14** in FIGURE 1 for connecting the tent material to the pole. As previously indicated, the instant invention is directed primarily to improved connecting means in the recited combination.

It will be understood that the type of pole employed may vary in construction but preferably it is constructed of cylindrical, metallic tubing and embodies a main or lower section **16** and an upper or extension section **18**. The main section **16** carries at its lower end a base plate **17**, see FIGURE 1, having an aperture **17***a* therein adapted to receive an appropriate staking element for anchoring the base to the ground to maintain the pole in an upright position. As best shown in FIGURE 2, the upper or extension section **18** of the pole is of reduced diameter in comparison with that of the main pole section **16** which terminates at the upper edge **46**. The section **18** is adapted to be snugly and telescopically received in the upper end of the main section. Rivets **20** or other suitable fastening elements serve to secure the upper section of the pole in place.

The improved connecting means is best shown over-all in FIGURES 2 and 4 to which reference is now made. Such means includes a coupling element or pin generally designated **22** which is secured to the tent material and depends from the underside thereof. It has a shank portion **24** provided with an internally threaded longitudinal bore and enlarged head portion **26** at the lower end thereof. The coupling element is secured to the tent material **10** by a pair of washers **28** and **30**, respectively disposed on the upper and lower sides of the tent material, and a bolt **32** provided with an enlarged head **34** engageable with the upper surface of the washer **28** and a threaded shank **36** which extends through the washers **28** and **30** and the tent material **10** and is threadedly received in the longitudinally threaded bore in the coupling element **22**. As will be apparent, the coaction between the pin **22** and bolt **32** secures the tent material **10** between the washers **28** and **30**.

The upper end of the pole extension **18** is provided with a disk-like portion or member **42**, which, as clearly shown in FIGURE 2, projects laterally beyond the exterior surface of the pole section **18** to define an abutment **44** which overlies the upper end **46** of the main pole section **16** for a purpose to be hereinafter described. The member **42** is also provided with a transverse slot **48**, see FIGURES 3 and 4, which communicates with a side aperture **50** formed in the upper portion of the pole section **18**. As best shown in FIGURE 3, the slot **48** in the end member **42** is adapted to receive the shank **24** of the coupling element **22** but is so sized as to prevent passage of the enlarged head **26** of the coupling element therethrough.

A retaining or locking sleeve **52**, which constitutes an important feature of the present invention, is rotatably mounted on the upper pole section **18** between the abutment **44** and end **46**, with which it has frictional engagement as well as the exterior surface of the pole section **18** to maintain the sleeve in adjusted position. An aperture **54**, of substantially the same size and shape as the side aperture **50** in the pole section **18**, is provided in the

upper end of the sleeve **52** to permit passage of the shank **24** and head **26** of the coupling element **22** therethrough and the passage of the shank **24** into the end slot **48** when it is in registry with the side aperture **50** in the pole section **18**. Since the coupling element **22** cannot move through the end slot in view of the presence of its enlarged head **26**, it will be readily apparent that when the sleeve **52** is rotated to a position in which the aperture **54** therein is out of registry with the side aperture **50** in the pole section **18**, as shown in FIGURES 2 and 3, the coupling element is securely held in operative connected relation with the pole.

From FIGURES 2 and 3, it will be appreciated that the coupling element **22** may partake of limited longitudinal and lateral rocking movements in respect to the supporting pole, thereby providing flexibility in the connection means, which serves to avoid damage to the tent material, particularly in the region of its connection with the supporting pole, under adverse weather conditions, such as high winds, and heavy snow and rain falls.

The simplicity of operation of the present invention is believed to be apparent from the foregoing description. However, in the interest of clarity and completetness, it will now be briefly set forth.

When it is desired to connect the tent material to the supporting pole, the retaining or locking sleeve **52** is rotated to a position in which its aperture **54** is in registry with the side aperture **50** in the pole section **18**, as shown in FIGURE 4, which permits the lateral insertion of the coupling element **22** into the slot **48** in the end member of the pole, with its enlarged head **26** disposed therebelow. The retaining sleeve **52** is then rotated to its retaining or locking position in which the sleeve covers the side aperture **50** in the pole section **18**. The sleeve **52** is maintained in this retaining or locking position by its frictional engagement with the exterior surface of the pole section **18** and the abutments **44** and **46**. Thus, the inadequacies of the prior art have been overcome by the present invention.

While this invention has been described with reference to a specific embodiment, it will be understood that this embodiment is merely exemplary and that departures therefrom may be made within the spirit and scope of the invention as defined by the following appended claims.

I claim:

**1.** In a tent of the type formed from a flexible material, at least one pole supporting said material, and means connecting the material to the upper end of said pole, the improvement wherein the means connecting the material to said pole comprises, in combination:

a coupling element secured to the tent material and depending from the underside thereof and having a shank portion and an enlarged head portion at the lower end thereof;

the upper end portion of said pole comprising a hollow cylindrical member having a side aperture shaped to permit passage of the shank and head portions of said coupling element therethrough and reception of the latter within said member;

a member on the upper end of said pole and having a laterally opening slot communicating with the side aperture in said pole for permitting passage of the shank portion of said coupling element thereinto, said slot being of a size to prevent passage of the head portion of said coupling element therethrough; and

a retaining sleeve rotatably mounted on the upper portion of said pole in frictional engagement therewith, said sleeve being provided with an aperture opening through the upper end thereof adapted to register with the pole side aperture and end slot in one position of rotation of said sleeve with respect to said pole to permit said coupling element to be inserted in and withdrawn from said pole, said sleeve in another position of rotation covering the side aperture in said pole to prevent disconnection of said coupling element from said pole, said coupling element being laterally rockable and longitudinally movable in respect to said pole to provide flexibility in the connecting means to prevent damage to the tent material in the region of its connection to said pole under adverse weather conditions, such as high winds, heavy snowfalls or rains.




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U.S. Cl. X.R.

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