

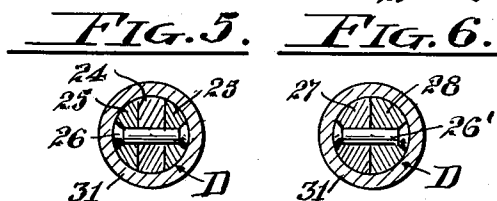
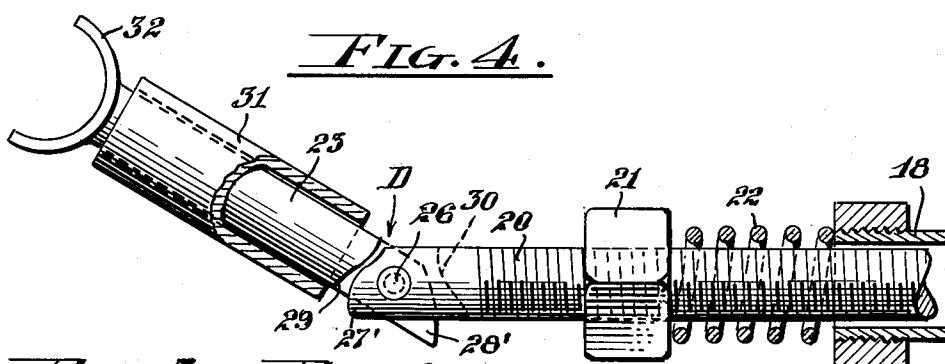
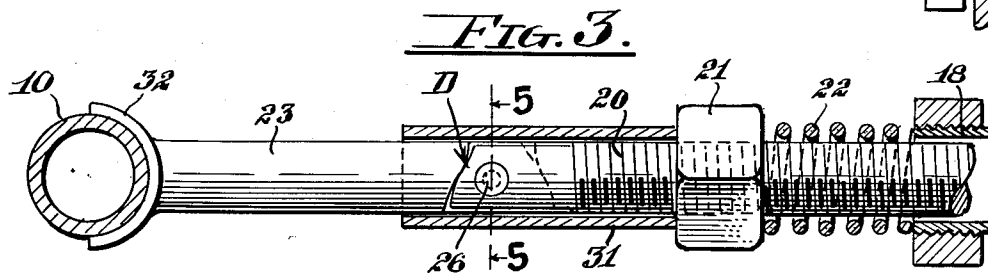
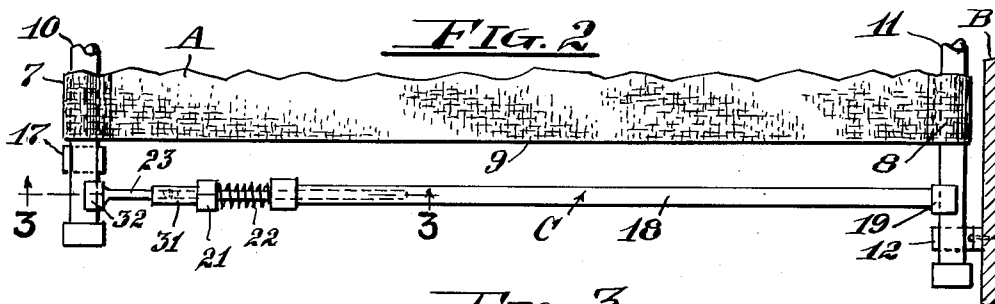
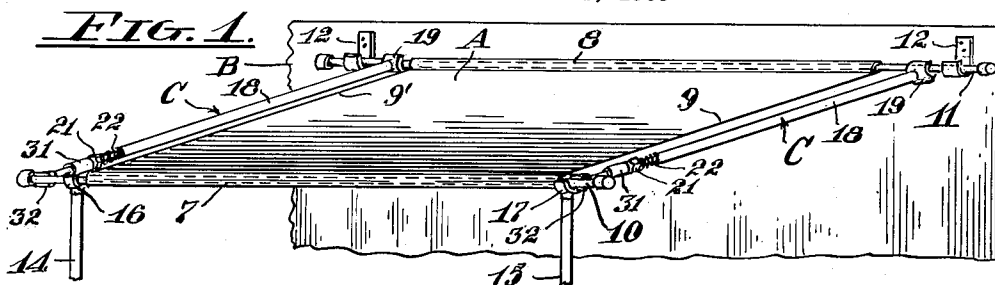
March 20, 1962

M. M. COCKRUM

3,025,866

FABRIC AWNING AND STRETCHER THEREFOR

Filed March 21, 1960



INVENTOR.

Maurice M. Cockrum;

BY

BY
R. S. Berry
Att'y.

Att'y.

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3,025,866

FABRIC AWNING AND STRETCHER THEREFOR

Maurice M. Cockrum, Los Angeles, Calif.

(11569 Kling St., North Hollywood, Calif.)

Filed Mar. 21, 1960, Ser. No. 16,603

1 Claim. (Cl. 135—5)

This invention relates to a fabric awning and stretcher therefor and has as its primary object the provision of a knock-down awning which is especially applicable for use on house trailers where it is necessary to dismount the awning when the trailer is being hauled from place to place; a particular object being to provide a construction whereby the awning may be readily assembled and disassembled.

Another object is to provide in the awning assemblage a simple and highly effective means for stretching a fabric awning panel to render it taut and to provide in such means a construction whereby the stretcher may be readily adjusted to compensate for varying conditions of the fabric of the awning, such as shrinkage when wet or damp, or stretch as may occur after prolonged use, or misfit when initially produced.

A further object is to provide an awning stretcher wherein the stretch of the fabric is effected and maintained under yieldable spring tension whereby excessive stress on the fabric may be prevented either in initially installing the awning or as may be occasioned by subjecting the awning to dampness.

With the foregoing objects in view together with such other objects and advantages as may subsequently appear, the invention resides in the parts and in the combination, construction and arrangement of parts hereinafter described and claimed, and as illustrated by way of example in the accompanying drawing in which:

FIG. 1 is an isometric view of the awning as seen from above and from the front thereof;

FIG. 2 is a plan view of a fragmentary side portion of the awning;

FIG. 3 is a detail in section taken on the line 3—3 of FIG. 2 showing the awning stretcher in its extended awning stretching position;

FIG. 4 is a view similar to FIG. 3 showing the awning stretcher in its contracted position;

FIG. 5 is a detail in cross section as seen on the line 5—5 of FIG. 3 showing one form of the hinge joint of the stretcher; and

FIG. 6 is a sectional view similar to FIG. 5 showing a modification of the hinge joint.

Referring to the drawings more specifically, A indicates generally the awning panel which is flexible and consists of a suitable fabric such as canvas. The panel is rectangular, it having opposed front and rear margins 7 and 8 and opposed side margins 9—9'. The front and rear margins 7—8 are here shown as tubular for effecting connections with front and rear end rails 10—11 which extend longitudinally through the tubular margins 7—8 respectively and have their end portions projecting from the side margins 9—9'. The end rails 10—11 comprise lengths of stiff metal tubing.

The rear end rail 11 is designed to be removably mounted adjacent its ends on U-brackets 12 to extend horizontally, the brackets 12—12 being securely fastened to a suitable rigid support B such as the side or end wall of a house trailer. The front rail 10 is removably supported horizontally adjacent its ends on the upper ends of a pair of standards 14—15 resting at their lower ends on a suitable support (not shown), the upper ends of the standards 14—15 being fitted with yokes 16—17 in which the rail 10 seats.

The standards 14—15 are spaced from the support B a distance approximating the span of the panel A from

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front to rear and are sufficiently yieldable or loosely supported to permit lateral movement of their upper ends a short distance if necessary in stretching the awning panel, as will be later described.

Extending parallel with and adjacent to the side margins 9—9' of the panel A is a pair of rails C—C each of which embodies a length of stiff metallic tubing one end of which has a yoke 19 adapted to seat against either of the rails 10—11 but being here shown as engaged with the rail 11. Telescoped in the other end of the tubing 18 for free longitudinal movement therein is a threaded shaft 20 on which is screwed a nut 21 between which and the outer end of the tubing 18 is a helical spring 22 wound around the shaft 20 and adapted to bear between the nut 21 and the adjacent end of the tubing 18.

The outer end of the shaft 20 is hingedly connected to an arm 23 by a conventional articulate or rule joint D which joint comprises, in the construction shown in FIGS. 3, 4 and 5, an end tongue 24 on the arm 22 extending between a pair of end projections 25—25 on the shaft 20 and hingedly connected thereto in a usual manner by a pivot pin 26. In the construction of the joint D as shown in FIG. 6 the shaft 20 and arm 23 have overlapping end flanges 27—28 hingedly connected together by a pivot pin 26. The joint D embodies a conventional construction whereby the relative articulate movement of the arm 23 and shaft 20 is limited to between an axially aligned position of the arm and shaft and an obtuse angular position of the arm relative to the shaft as illustrated in FIGS. 3 and 4. This construction consists of end projections 27' and 28' on the shaft 20 and arm 23 respectively leading from the under or corresponding sides thereof, and co-operating shoulders 29 and 30 on the arm and shaft, all in a usual manner common in rule joints.

A sleeve 31 is slidably mounted on the arm 23 for positioning over the joint D to releasably hold the arm 23 against articulate movement, as shown in FIG. 3 or for positioning clear of the joint D to permit such movement as shown in FIG. 4.

A yoke 32 is provided on the outer end of the arm 23 adapted to seat against the rail 10.

In the operation of the invention, the awning panel A fitted with the end rails 10—11 is fastened on its supporting structure B by mounting the ends of the back end rail 11 in the U-brackets 12—12 which are attached to the structure B as by means of bolts or screws in a usual manner. The side rails C—C are then applied by seating the yokes 19 and 32 on the ends thereof against the inner faces of the rails 11 and 10 respectively, with the rule joint D broken as shown in FIG. 4. In effecting this assemblage the shafts 20 are adjusted longitudinally in the tubes 18 by shifting the shafts lengthwise relative to the tubes to bring the yokes 19 and 32 to their abutting positions against the rails 11 and 10; the nuts 21 then being adjusted on the threads of the shafts 20 to bring the inner ends of the springs 22 into abutting relation to the outer ends of the tubes 18.

The arms 23 are then swung from their inclined position to their extended positions in alignment with the tubes 18 and secured in such positions by sliding the sleeves 31 over the joints D. This swinging movement of the arms acts, by reason of the outward path of travel of the yokes 32 on their outer ends, to move the rail 10 outwardly relative to the rail 11 thereby effecting a stretching action on the fabric of the awning panel A and thus rendering the latter taut. This stretching action imposes thrusts on the springs 22 thereby compressing the springs and placing them under tension and thus yieldably countering the thrust imposed on the awning panel occasioned by stretching action of the arms 23.

The foregoing operation may be effected while the awning panel A is suspended from the rail 11 mounted

on the hangers 12, or may be effected before mounting the rail on the hangers.

In either event the awning panel A is subsequently swung to its overhead position and the ends of the front rail 10 are seated in the yokes 16—17 of the standards 14—15 whereby the forward end of the awning is supported.

In event the awning panel should become slack while thus mounted it may be rendered taut by screwing the nuts 21—21 on the shafts 20—20 thereby advancing the shafts relative to the tubes 18—18 thus stretching the awning panel.

On the other hand in event the awning panel should shrink as might be occasioned by moisture, such shrinkage will exert a pull on the outer end rail 10 which will act to advance the shafts 20 relative to the tubing 18 in opposition to the springs 22, which springs yield under the thrust imposed thereon thereby relieving the awning panel of excess strains developed by shrinkage thereof.

The awning may be readily dis-assembled by lifting the front rail 10 out of engagement with the yokes 16—17, retracting the sleeves 31 on the arms 23—23 free of the joints D, swinging the arms 23—23 to their angular position thereby slackening the awning panel A, retracting the nuts 21—21 on the shafts 20 if necessary, detaching the front rail 10 from the yokes 32—32 thus freeing the rails whereupon the yokes 19—19 on their inner ends will dis-engage from the back rail 11 which may then be lifted free of the brackets 12—12.

The awning panel A may then be rolled on either end rail 10 or 11 and bundled with the side rails C—C and standard 14—15, whereby the awning structure when not in use may be disposed in a compact package to facilitate handling, storage and shipment.

While I have shown and described specific embodiments of the invention, I do not limit myself to the exact details of construction set forth, and the invention embraces such changes, modifications and equivalents of the parts and

their formation and arrangement as come within the purview of the appended claim.

I claim:

An awning comprising a rectangular flexible awning panel having parallel tubular front and rear margins and parallel side margins, rigid front and rear end rails extending longitudinally through said tubular front and rear margins and having end portions projecting outwardly from said side margins, a pair of brackets attached to an elevated supporting surface in horizontally spaced relation to each other and releasably engaging the projecting end portions of said rear end rail, a pair of upright spaced standards resting at their lower ends on a supporting surface, upwardly presented yokes on the upper ends of said standards in which the projecting end portions of said front end rail are seated, said standards being spaced outwardly from said brackets a distance approximating the span of said awning panel from front to rear, a pair of side rails extending parallel with and adjacent to the side margins of said awning panel, a yoke on one end of each of said side rails seated astride a projecting end portion of one of said end rails, an arm at the other end of each of said side rails, mountings for said arms supported on said side rails for movement longitudinally thereof, pivots connecting said arms to said mountings on which said arms are adapted to swing in and out of alignment with said side rails, a yoke on the outer end of each of said arms adapted for positioning astride a projecting end portion of one of said end rails, means for releasably holding said arms in alignment with the side rails, and means exerting a yieldable outward thrust on said mountings relative to the side rails.

References Cited in the file of this patent

UNITED STATES PATENTS

732,112	Ranz	June 30, 1903
1,062,499	Pielert	May 20, 1913
2,743,957	Sherman	May 1, 1956
2,808,065	Ellis	Oct. 1, 1957