

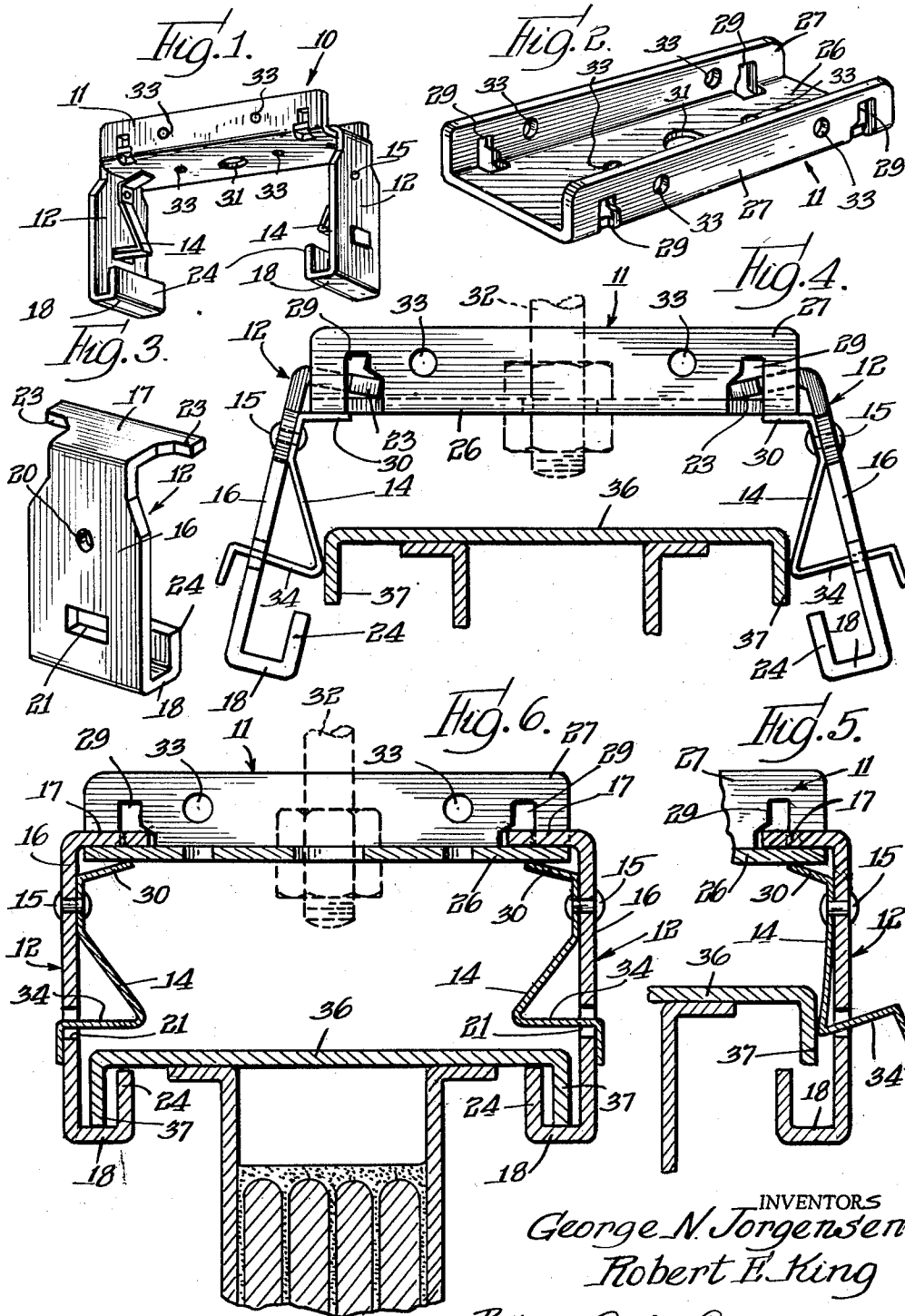
June 22, 1965

G. N. JORGENSEN ET AL

3,190,604

BUS DUCT HANGER

Filed Sept. 4, 1963



INVENTORS
George N. Jorgensen
Robert E. King

By Paul J. Rose Atty.

1

3,190,604

BUS DUCT HANGER

George N. Jorgensen and Robert E. King, Lexington, Ky., assignors to Square D Company, Park Ridge, Ill., a corporation of Michigan

Filed Sept. 4, 1963, Ser. No. 306,458

2 Claims. (Cl. 248-317)

This invention relates to bus duct hangers.

An object of the invention is to provide an improved hanger for bus duct.

Another object is to provide a bus duct hanger of a type such that the hangers for a complete run of bus duct may be suspended and aligned before any bus duct is hoisted into position.

A further object is to provide a bus duct hanger which may be readily suspended by a single drop rod but which may have anti-sway bracing readily attached thereto if desired.

Still another object is to provide a bus duct hanger which may be completely assembled at the factory so as not to require further assembling at the job site.

A still further object is to provide a bus duct hanger which may be attached to the bus duct without the use of tools.

Another object is to provide a bus duct hanger permitting the suspended duct to be moved longitudinally therein.

Yet another object is to provide a bus duct hanger including an elongated channel-shaped main body portion having a pair of generally L-shaped openings respectively adjacent opposite ends of each of the side portions thereof, a pair of leg portions respectively pivotally mounted in the main body portion adjacent opposite ends thereof and normally extending generally perpendicularly downwardly therefrom, each of the leg portions having an inwardly extending hook portion adjacent the free end and each hook portion having an upwardly extending retaining flange adjacent its free end, the pivoted ends of each of the leg portions having an anchoring portion with a pair of transversely extending opposite tongues respectively receivable in an aligned pair of the L-shaped openings in the side portions of the channel-shaped main body portion in the longer leg portions of the L-shaped openings and shiftable to the shorter leg portions of the L-shaped openings, and a pair of generally Z-shaped spring members respectively secured to the inner surfaces of the leg portions of said hanger, each spring member having an upper retaining portion engageable with the main body portion of the hanger to limit outward pivotal movement of its respective leg portion of the hanger and retain the tongues thereof in the shorter leg portions of the respective L-shaped openings, and each spring member having a lower retaining portion extending through its respective leg portion of the hanger and cooperable with the retaining flange thereon to maintain a bus duct housing on the hook portion thereof.

Other objects and advantages will appear when the following specification is considered along with the accompanying drawing in which:

FIGURE 1 is a perspective view of a bus duct hanger constructed in accordance with the invention.

FIGURE 2 is a perspective view of the main body portion of the hanger of FIGURE 1;

FIGURE 3 is a perspective view of one of the leg portions of the hanger of FIGURE 1 before it is assembled with the main body portion;

FIGURE 4 is an elevational view of the bus duct hanger of FIGURE 1 showing a bus duct being inserted upwardly thereto, the bus duct being shown in cross section;

FIGURE 5 is a fragmentary view similar to the right

2

hand portion of FIGURE 4 but showing the lowering of the bus duct into the leg portions of the hangers; and

FIGURE 6 is a view similar to FIGURE 4 but showing the bus duct in final mounted position.

A bus duct hanger 10 constructed in accordance with the invention includes a main body portion 11 of generally U-shaped or channel-shaped cross section, a pair of leg portions 12 mounted respectively adjacent opposite ends of the body portion 11 for limited pivotal movement relatively thereto, and a pair of generally Z-shaped springs 14 formed from flat stock and respectively secured to the leg portions 12 by respective rivets 15. The bus duct hanger 10 is particularly adapted for use with bus duct of the construction disclosed in copending application, Serial No. 135,852, filed on September 5, 1961, and assigned to the assignee of the present invention, but it will be understood that it is within the scope of the invention to modify the length or shape of the leg portions 12 to accommodate bus duct having a housing or frame of different construction or to accommodate the bus duct of the aforesaid copending application flatwise of the bus bars, rather than edgewise as shown.

The leg portions 12 are shaped as best shown in FIGURE 3. Each leg portion 12 includes an elongated flat portion 16 having a bent-over anchoring portion 17 and a hook portion 18 formed integrally therewith respectively adjacent opposite ends thereof. Each flat portion 16 is provided with a round hole 20 for receiving one of the rivets 15 and a rectangular hole 21 for receiving a portion of one of the springs 14. Each anchoring portion 17 includes a pair of laterally extending tongues 23 for pivotally suspending the respective leg portions 12 from the main body portion 11 of the hanger. Each hook portion 18 includes a retaining flange 24 for retaining the respective leg portion 12 in supporting relationship with a bus duct.

The channel-shaped main body portion 11 of the hanger 10 is best shown in FIGURE 2 and includes an elongated bottom portion 26 and a pair of opposed side portions 27 formed integrally therewith. Each side portion 27 is provided with a pair of roughly L-shaped openings 29 respectively adjacent opposite ends and aligned with the respective openings 29 in the other side portion 27 for pivotally mounting the leg portions 12 adjacent opposite ends of the main body portion 11. The tongues 23 of each leg portion 12 are first inserted in the vertically extending longer leg portions of an opposed pair of the L-shaped openings 29 with the flat portion 16 extending generally parallel to the bottom portion 26 of the main body portion 11, and the leg portion 12 is then rotated to pivot the tongue portions 23 into the horizontally extending shorter leg portions of the L-shaped openings 29. The dimensions and shapes of the parts are such that the leg portions 12 cannot be disengaged from the main body portion 11 without first being rotated back to place the tongue portions 23 mainly in the vertically extending longer leg portions of the L-shaped openings 29 again. Further, when the hanger is under load, the tongue portions 23 are confined within the horizontally extending shorter leg portions of the L-shaped openings 29 and engage the portions of the side portions 27 defining the horizontally extending shorter leg portions of the L-shaped openings to provide added support and prevent bending of the leg portions 12 at the junction of the flat portions 16 with the anchoring portions 17, which could occur if the tongue portions 23 were not so confined.

The springs 14 are riveted respectively to the leg portion 12 while the flat portions 16 are generally perpendicular to the bottom portion 26 and the tongues 23 are mainly in the horizontally extending shorter leg portions of the openings 29. The springs 14 include upper retaining portions 30 engageable with the bottom por-

tion 26 as shown in FIGURE 4 to limit outward pivotal movement of the leg portions 12, and thus retain the tongues 23 in the horizontally extending shorter leg portions of the openings 29 and thereby retain the leg portions 12 in assembled relationship with the main body portion 11 of the hanger.

The bottom portion 26 is provided with a hole 31 (FIGURE 1) for reception of a drop rod 32 indicated in dotted lines in FIGURES 4 and 6. A plurality of holes 33 are provided in the bottom portion 26 and side portions 27 for the securing of anti-sway braces (not shown) to the main body portion 11 if desired.

The springs 14 also include lower retaining portions 34 extending through the respective openings 21 and serving to retain bus duct in association with the hanger. FIGURES 4-6 show a cross section of a bus duct including a housing or casing having an upper channel portion 36 with side flange portions 37. Upon insertion of the bus duct in the hanger 10, the flange portions 37 engage the springs 14 and pivot the leg portions 12 outwardly, as shown in FIGURE 4. The bus duct is inserted into the hanger far enough to raise the flange portions 37 above the retaining flanges 24 on the hook portions 18 of the leg portions 12. The leg portions 12 are then pushed inwardly by the installer to locate the hook portions 18 under the flange portions 37 and stress the springs 14 as shown in FIGURE 5. Finally, the bus duct is lowered till the side flanges 37 engage the hook portions 18 as shown in FIGURE 6 and the springs 14 resume their unstressed shape. The retaining flanges 24 of the leg portions 12 and the lower retaining portions 34 of the springs 14 thereafter prevent accidental dislodgment of the bus duct from the hanger, because the distance therebetween is less than the corresponding dimension of the side flange portions 37 of the bus duct housing.

It will be seen that the bus duct may be attached to the hangers without the use of tools and may be slid longitudinally in the hangers if desired. Further, the springs 14 serve the double purpose of retaining the leg portions 12 on the body portion 11 and retaining the bus duct in the hanger. A complete row of hangers may be installed before any bus duct is hoisted into position.

Various modifications may be made in the structure shown and described without departing from the spirit and scope of the invention.

We claim:

1. A bus duct hanger comprising an elongated main body portion, a pair of depending leg portions respectively pivotally mounted on said main body portion adjacent opposite ends thereof and normally extending generally perpendicularly thereto, the free end portion of each of said leg portions including an inwardly extending hook portion with an upwardly extending retaining flange, and a pair of generally Z-shaped spring members secured respectively to the inner surfaces of said leg portions and including lower retaining portions normally extending inwardly respectively from said leg portions in upwardly spaced relationship respectively to said inwardly extending hook portions and upwardly extending retaining flanges and resiliently movable outwardly respectively from said upwardly extending retaining flanges, whereby a bus duct can be suspended by said hook portions and prevented by said lower retaining portions from moving upward sufficiently to clear said upwardly extending retaining flanges, said spring members including upper re-

taining portions respectively extending inwardly from said inner surfaces of said leg portions angularly with respect to said main body portion when said leg portions are generally perpendicular thereto and being flatwise engageable with said main body portion upon outward pivotal movement of said leg portions thereby to limit said outward pivotal movement.

2. A bus duct hanger comprising an elongated channel-shaped main body portion including a pair of generally parallel opposite side portions each having a pair of generally L-shaped openings therein respectively disposed adjacent opposite ends thereof and respectively aligned with the L-shaped openings in the other side portion, a pair of depending leg portions respectively pivotally mounted on said main body portion adjacent opposite ends thereof and normally extending generally perpendicularly thereto, the pivoted end portion of each of said leg portions including an anchoring portion having a pair of transversely oppositely extending tongues receivable respectively in a pair of said aligned L-shaped openings in the longer leg portions thereof and shiftable to the shorter leg portions thereof, the free end portion of each of said leg portions including an inwardly extending hook portion with an upwardly extending retaining flange, and a pair of generally Z-shaped spring members secured respectively to the inner surfaces of said leg portions and including lower retaining portions normally extending inwardly respectively from said leg portions in upwardly spaced relationship respectively to said inwardly extending hook portions and upwardly extending retaining flanges and resiliently movable outwardly respectively from said upwardly extending retaining flanges, whereby a bus duct can be suspended by said hook portions and prevented by said lower retaining portions from moving upward sufficiently to clear said upwardly extending retaining flanges, said spring members including upper retaining portions respectively extending inwardly from said inner surfaces of said leg portions angularly with respect to said main body portion when said leg portions are generally perpendicular thereto and being flatwise engageable with said main body portion upon outward pivotal movement of said leg portions thereby to limit said outward pivotal movement and retain said tongues of the respective leg portions generally in said shorter leg portions of the respective pair of said aligned L-shaped openings.

References Cited by the Examiner

UNITED STATES PATENTS

50	1,200,877	10/16	Sable	248-343
	1,843,201	2/32	Buchanan	248-343
	1,849,966	3/32	Ureles	248-343
	2,297,869	10/42	Biller	248-343
	2,507,308	5/50	Kruger	248-343
55	2,563,268	8/51	Pettinggell	248-343
	2,578,022	12/51	Schoenbrod	248-343
	2,687,867	8/54	Wolar	248-343
	2,711,876	6/55	Goebel	248-343
	2,854,205	9/58	Kruger	248-343
60	2,963,251	12/60	Fuss	248-343
	2,969,438	1/61	Herrmann et al.	248-58
	2,978,573	4/61	Kalbrunner	248-343
	3,018,083	1/62	Bobrick	248-343

65 CLAUDE A. LE ROY, *Primary Examiner.*