July 24, 1934. J. H. BOYE 1,967,392

CURTAIN CRANE SUPPORT

Filed April 26, 1934

Fig. 1.

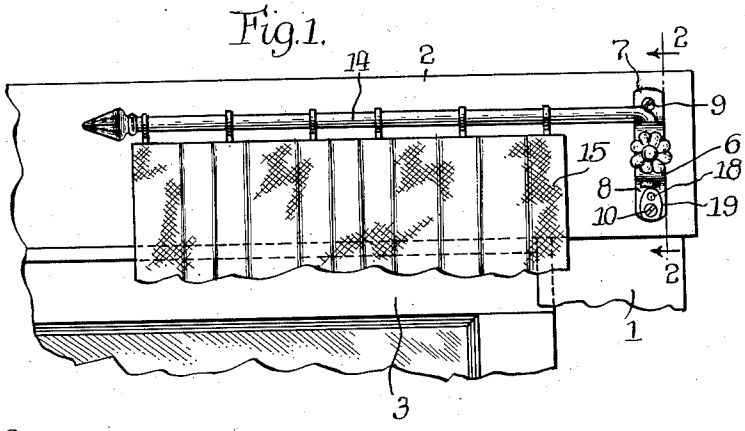


Fig. 3.

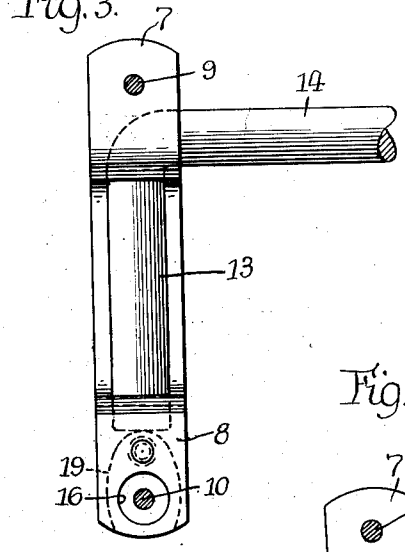


Fig. 2.

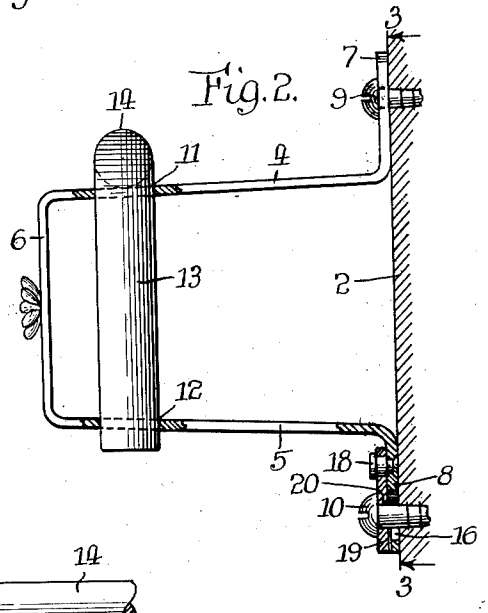


Fig. 4.

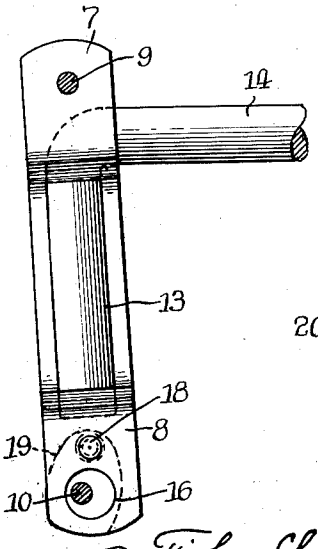


Fig. 7.

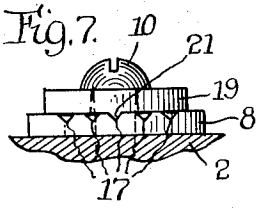


Fig. 8.

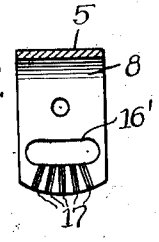


Fig. 6.

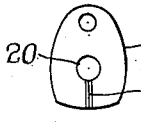
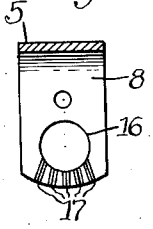


Fig. 5.



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CURTAIN CRANE SUPPORT

James H. Boye, Chicago, Ill.

Application April 26, 1934, Serial No. 722,419

5 Claims. (Cl. 156—22)

This invention relates to the art of curtain cranes, and has reference more particularly to a new and improved crane support.

A well known type of curtain crane comprises a supporting bracket formed with registering upper and lower holes, and a curtain suspension rod formed with a rectangularly bent stem or shank that engages with the holes of the supporting bracket, whereby the crane and curtain can be readily swung outwardly away from the window to permit washing of the latter or for any other purpose. These cranes are usually used in pairs, one at each upper corner of the window frame to support side curtains or drapes; and a considerable difficulty heretofore experienced has been to secure the proper and accurate mounting of the cranes and their supporting brackets so that the curtain supporting rods of the cranes will lie perfectly horizontal and in accurate alignment with each other. The weight of the curtains, of course, creates a sagging tendency of the rods; and, unless the supporting brackets are carefully mounted, the rods are likely to tilt either upwardly or downwardly more or less, presenting a very unsightly appearance.

In Letters Patent No. 1,885,407 granted to me November 1, 1932, there is disclosed a curtain crane support having means for adjusting the stem or shank of the crane so as to place the curtain supporting arm thereof in accurate horizontal position, the adjusting means being mounted in the bracket and directly engaging the shank of the crane. The device of my present invention is of the same general character as that of the aforesaid patent, but, according to my present invention, the registering holes in the arms of the bracket which form bearings for the shank of the crane fit the latter, and the adjustment of the shank is effected by a lateral adjustment of one limb of the bracket itself, the attaching flange of said limb being equipped with an adjusting member cooperating therewith and with the fastening screw to permit such adjustment and to securely hold the bracket in adjusted position; the main object of the present invention being to provide a device of equal efficiency with that of the aforesaid patent, but of somewhat simpler and more economical structure.

One practical embodiment of the present invention is illustrated in the accompanying drawing, in which:—

Fig. 1 is a front elevation of an upper corner portion of a window frame showing one of a mating pair of my improved cranes mounted thereon.

Fig. 2 is an enlarged side elevation, partly in section, on the line 2—2 of Fig. 1.

Fig. 3 is a vertical section on the line 3—3 of Fig. 2, showing the bracket and crane in normal position.

Fig. 4 is a view similar to Fig. 3 but showing the bracket adjusted sidewise to correct a slight downward bend of the crane arm such as may be caused by the weight of the curtain or wear of the bracket bearing.

Fig. 5 is a detail front elevation of the lower flange of the bracket.

Fig. 6 is a rear elevation of the adjustment plate that cooperates with the flange.

Fig. 7 is a bottom plan view of the lower flange and adjustment plate, enlarged.

Fig. 8 is a view similar to Fig. 5 showing an optional form of opening in the flange.

Describing the embodiment of the invention shown in the drawing, 1 may designate one of the stiles and 2 the top bar of a window frame; the upper sash being indicated fragmentarily at 3.

On the opposite ends of the top bar 2 are mounted the crane supporting brackets, only one of which is herein shown since the other is a duplicate. The supporting bracket and its adjusting means are more fully illustrated in the detail views, Figs. 2 to 7 inclusive, and the bracket itself, in the form shown, consists of a horizontally disposed U-shaped member comprising upper and lower limbs 4 and 5, an intermediate limb 6, and upwardly and downwardly bent flanges 7 and 8 that are apertured to receive fastening screws 9 and 10 respectively. The upper and lower limbs 4 and 5 of the bracket have registering holes 11 and 12, which, as shown in Fig. 2, are of a size to form a bearing fit with the shank 13 of the crane, the long horizontal limb of the latter being designated by 14, said limb supporting a curtain or drape 15 in the usual manner.

The lower attaching flange 8 of the bracket, as best shown in Fig. 5, has an opening, such as the hole 16, that is of substantially larger diameter than that of the shank of its attaching screw 10, and below the hole 16 the outer or front face of the flange has a group of laterally spaced grooves 17 preferably radially disposed with reference to a pivot stud 18 located above the hole 16. On this pivot stud is mounted the adjustment member, preferably taking the form of a small plate 19 shown in rear view in Fig. 6. The plate 19 is pivoted at its upper end on the stud 18, this latter having a flattened head as shown in Fig. 2 to lock the plate on the flange, but permitting

edgewise swinging adjustment of the plate 19 on the flange, and a slight rising movement of the free end of the plate relatively to the free end of the flange. The plate 19 also has a hole 20 of a size to just fit the shank of the fastening screw 10, and registering with the hole 16 of the flange. On the under or rear side of the plate 19 is a protuberance in the form of a tooth 21 that is adapted to fit any of the grooves 17 of the flange. This is best shown in detail view Fig. 7, wherein the tooth 21 is shown engaged with the central groove 17 of the flange.

The manner in which, by the above described device, the position of the bracket is adjusted to level up or down to horizontal position the crane arm 14, will be readily seen. If the crane arm and shank as made are exactly at right angles, the bracket is mounted vertically as shown in Fig. 3, the adjustment plate 19 is set with its tooth 21 engaged with the central groove 17 of the flange, and the screw 10 is driven home. Now, if the curtain arm 14 is not exactly horizontal as installed, or if for any reason it bends slightly at the elbow, it is readily restored to true horizontal position, as shown in Fig. 4, by backing off the fastening screw 10 sufficiently to lift the tooth 21 out of the central groove 17. The lower limb of the bracket is then swung edgewise to one side until the crane arm 14 has been brought to horizontal position. This is permitted by reason of the fact that the hole 16 in the bracket flange 8 is sufficiently larger than the shank of the fastening screw 10 to permit the flange to be moved bodily transversely of the fastening screw. As soon as the required adjustment of the bracket has been made, the tooth 21 of the adjustment plate 19 is entered into whatever one of the grooves 17 lies therebeneath in the adjusted position of the bracket, the screw 10 is then driven home, and the bracket is thus securely locked in its changed position wherein it supports the crane arm 14 in true horizontal position.

As shown in Fig. 8, the lower flange 8 of the bracket may be formed with an arcuate slot 16' preferably struck from the axis of the upper fastening screw 9 as a center, that will serve the same purpose as the circular opening 16 shown in Fig. 5; but it is easier and cheaper to form a circular hole than to cut an arcuate slot, so that the construction of Fig. 5 is preferred.

While I have shown the cooperating locking means between the adjustment plate and flange as consisting of a tooth and grooves, it is manifest that any other means cooperating to prevent relative slip between said parts when the screw has been driven home may be employed. The adjustment plate 19 is shown and described as pivoted on the flange, this being a convenience to prevent the accidental loss of the adjustment plate, but manifestly such pivotal connection is not indispensible. Since the shank of the screw fits the hole 20 of the adjustment plate, manifestly the adjustment plate cannot move bodily relatively to the screw; and since the adjustment plate and the lower flange of the bracket are locked together when the screw is driven home, it is obvious that the lower limb of the bracket, when adjusted, is securely held in adjusted position.

I have herein shown and described a simple and practical embodiment of the invention well adapted to effectuate the stated purposes thereof, but I wish it to be understood that the details of structure and arrangement may be variously modified within the purview and scope of the appended claims.

I claim:

1. A curtain crane support, comprising a bracket having a hole to receive the pivot shank of the crane and flanges to receive fastening screws, one of said flanges formed with an opening larger than the shank of its fastening screw, and an adjustment member overlying said last-named flange and having a hole in register with said opening and fitting the shank of said screw, said flange and adjustment member having means for locking them against relative slip when the fastening screw is driven home.

2. A curtain crane support, comprising a bracket having a hole to receive the pivot shank of the crane and flanges to receive fastening screws, one of said flanges formed with an opening larger than the shank of its fastening screw, and an adjustment member overlying said last-named flange and having a hole in register with said opening and fitting the shank of said screw, said flange and adjustment member being relatively shiftable edgewise and their contiguous faces having cooperating means for locking them in adjusted position when the fastening screw is driven home.

3. A curtain crane support, comprising a bracket having a hole to receive the pivot shank of the crane and flanges to receive fastening screws, one of said flanges formed with an opening larger than the shank of its fastening screw, and an adjustment plate overlying said last-named flange and having a hole in register with said opening and fitting the shank of said screw, said flange and plate being relatively shiftable edgewise and their contiguous faces having, the one a group of laterally spaced depressions and the other a protuberance engageable with any of said depressions to lock said plate and flange against relative slip when the fastening screw is driven home.

4. A curtain crane support, comprising a bracket having a hole to receive the pivot shank of the crane and upper and lower flanges to receive fastening screws, the lower of said flanges having an opening larger than the shank of its fastening screw, and an adjustment plate overlying and pivoted to said lower flange, said plate having a hole in register with said opening and fitting the shank of said screw and a protuberance on its rear face, and said flange having on its front face a group of laterally spaced depressions selectively engageable with said protuberance to lock said plate and flange against relative slip when the fastening screw is driven home.

5. A curtain crane support, comprising a horizontal U-shaped bracket having registering holes in its top and bottom limbs to fit the pivot shank of the crane and upper and lower flanges to receive fastening screws, the lower of said flanges having an opening larger than the shank of its fastening screw, and an adjustment plate overlying said lower flange and pivoted thereto at a point above said opening, said plate having a hole in register with said opening and fitting the shank of said screw and a tooth on its rear face, and said flange formed in its front face with a group of laterally spaced grooves selectively engageable with said tooth to lock said plate and flange against relative slip when the fastening screw is driven home.

JAMES H. BOYE.