F. BRANDT.

PIPE STRINGER CLAMP.

APPLICATION FILED JUNE 28, 1920.

1,437,089. Patented Nov. 28, 1922.

Fig. 1

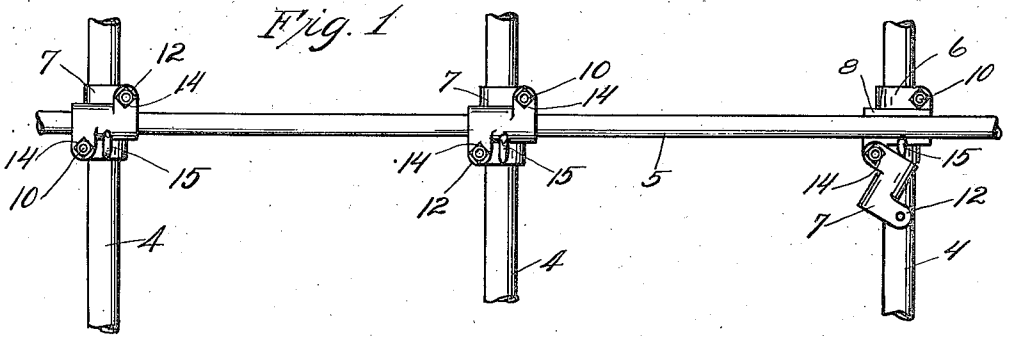


Fig. 2.

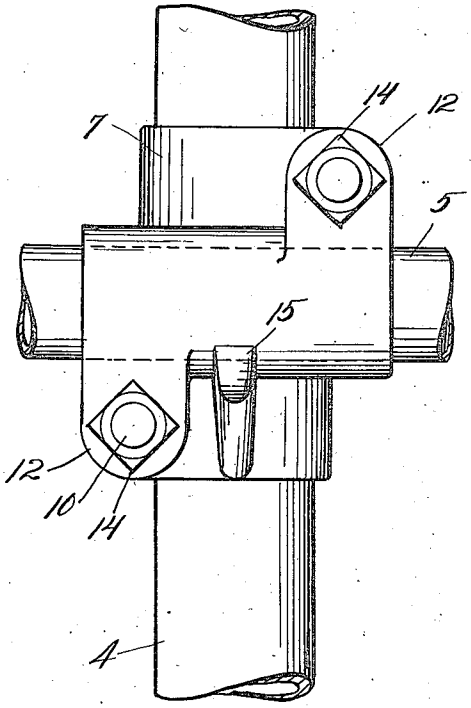
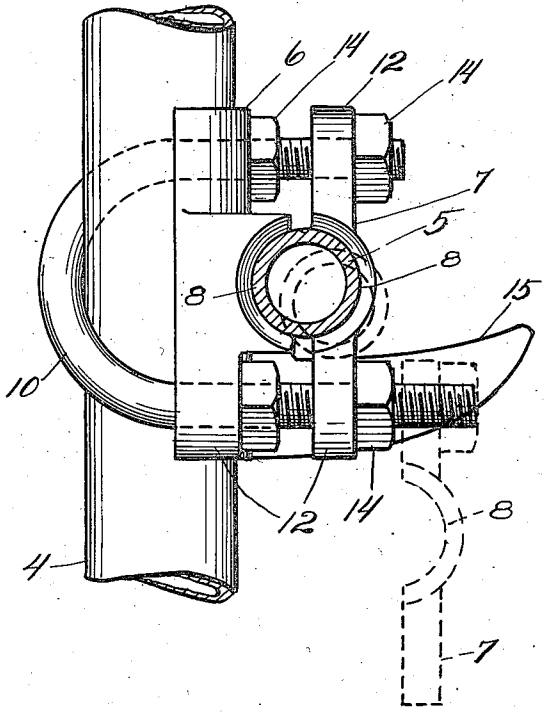


Fig. 3.



Witness:

R. E. Hamilton.

Inventor,

F. Brandt.

By Thorpe Grant

Attys

Patented Nov. 28, 1922. 1,437,089

UNITED STATES PATENT OFFICE.

FOKKO BRANDT, OF KANSAS CITY, KANSAS, ASSIGNOR TO THE BRANDT & KRELL ENGINEERING COMPANY, OF KANSAS CITY, KANSAS, A CORPORATION OF KANSAS.

PIPE-STRINGER CLAMP.

Application filed June 28, 1920. Serial No. 392,385.

To all whom it may concern:

Be it known that I, FOKKO BRANDT, a citizen of the Republic of Germany, and resident of Kansas City, in the county of Wyandotte and State of Kansas, have invented a certain new and useful Improvement in Pipe-Stringer Clamps, of which the following is a complete specification.

The present invention relates to knock-down framework for scaffolding and the like, and aims to provide an improved form of securing means for attaching stringers to the upright portions of such framework, in supported relation thereto.

The invention has particular relation to improvements in bracket means for securing stringer members of specific pipe form, with a view to affording greater convenience in the handling and assembling or demounting stringers of this character in proper relation to the upright portion of the framework, as well as permitting all the required adjustments of the stringer with relation to the remainder of the scaffolding.

For this purpose I have devised an improved bracket structure comprising bracket elements appropriately shaped for embracing the stringer between them in clamped relation, and having a common means for effecting the clamping together of said bracket elements and also securing the same rigidly to one of the upright members of the framework and, in addition, also allowing of suitable adjustment of the bracket structure vertically with reference to said upright member.

It is also sought to provide an improved bracket structure of this type in which the means for securing the same to the upright member also affords provision for allowing the outer bracket element to be loosened from clamping position and yet be retained in pivoted relation to the bracket structure during the application or removal of one of the stringer members.

A further object of the invention is to provide a bracket structure of the type described in which a projecting finger is included for temporarily supporting the stringer member and having the effect of guiding and urging the stringer member into the proper position for being clamped between the bracket elements; in which connection the said finger is so arranged as to act as a stop for limiting the swinging movement of the outer bracket elements back into position for engaging and clamping the stringer member.

With these general objects in view, the invention will now be described by reference to the accompanying drawing illustrating one form of construction for embodying the improvements, after which the novel features therein will be particularly set forth and claimed.

In the drawing:

Figure 1 is a fragmentary elevation illustrating a portion of a knock-down framework for a scaffold, and showing one of the pipe stringers thereof secured to the upright members by means of bracket structures embodying the present invention; and

Figures 2 and 3 are enlarged detail views showing a fragment of one of the upright members of the framework, Figure 2 showing a face view of one of the bracket structures, while Figure 3 shows a side view of the same, the broken lines in the latter view representing the outer bracket element in pendent relation for allowing removal or insertion of the stringer into position.

Referring now to the said drawing in detail, this illustrates the improved stringer supporting structure in connection with a series of upright members 4 of a scaffold, to which upright members a series of pipe stringers 5 (only one of which is shown) are designed to be securely connected by means of bracket structures allowing the said stringers to be mounted at various different elevations with reference to the uprights 4. In the present case, I construct the stringer securing or attaching means of a pair of bracket elements comprising an inner bracket element 6 and an outer bracket element 7, having their intermediate portions suitably shaped, as by being formed with mating arcuate recesses 8, for receiving the stringer 5 in clamped relation. The inner bracket element 6 is also provided with a similar arcuate recess extending vertically from top to bottom of said element and adapted to afford an extensive bearing face for embracing the corresponding up-

right 4. The bracket structure is adapted to be secured to one of the uprights 4 by means of a U-bolt 10 arranged to embrace the upright in a diagonal fashion, as illustrated in Figure 3, with the legs of the U-bolt extending through perforated eyes or lugs 12 provided at diagonally opposite points on each of the elements, 6 and 7, so that the bracket structure is secured by the U-bolt 10 embracing the same at diagonally opposite points, both above and below the stringer 5, as clearly shown in Figure 2. Nuts 14 are provided for clamping the element 6 against the upright 4, and also for clamping the element 7 against the stringer 5, the proportion of the parts being such as to allow this clamping of the stringer 5 to take place without any engagement of the bracket element 7 with either of the inner nuts 14.

One of the legs of the U-bolt 10, preferably the leg occupying the lower position, is made longer than the other for the purpose of permitting unclamping or loosening of the outer bracket element 7 sufficiently to become disengaged from the upper leg of said bolt, thereby allowing the said bracket element 7 to swing around on the lower leg of the bolt as a pivot and thus be retained in connected relation to the bracket structure during any operation of mounting or removing one of the stringer members 5. This feature of the construction is clearly shown in Figure 3 of the drawing, the upper leg of the bolt 10 being short enough to allow removal of the outer nut 14 to permit disengagement of the upper lug or eye 12 of the element 7 from this portion of the bolt 10. The bracket element 7 may then swing freely into the position represented by the broken lines in Figure 3.

I also preferably provide a finger 15 projecting outwardly from the lower middle portion of the bracket element 6, and form the upper edge of this finger with an inclined supporting surface, the angle of this incline being upward in the direction of the free end of the finger 15; the purpose of this feature of the construction is to provide a temporary supporting surface for the stringers 5 when they are being manipulated into or out of position within the bracket structure, and the inclination of this supporting surface is such as to prevent any ready disengagement of the stringer from the finger, and in the case of a cylindrical form of stringer, such as that for which the present bracket structure is designed, the effect of this inclination is to rather urge the stringer into position for facilitating the clamping operation of the elements 6 and 7, as indicated by the broken lines in Figure 3. This finger 15 has an additional function in that it also limits the pivotal or swinging movements of the outer bracket element 7 when it is thrown back into operative position for engaging and clamping the stringer in place.

It will thus be understood that I have devised a simple and practical structure for facilitating the operation of assembling a framework of the knock-down character described and enabling this operation to be effected conveniently and rapidly by a single workman, since the fingers 15 present a reliable means for engaging and holding the stringers as they are brought into the proper relation with the several bracket structures preparatory to securing the outer bracket element 7. The particular contour of the fingers 15 shown also effectually guards against casual displacement of the stringer which is constantly urged inward toward the bracket element 6, so that the stringer is not readily allowed to become dislodged and fall to the ground. The difference in the relative length of the legs of the bolt 10 further forms a very simple means for retaining the outer bracket element 7 at all times in connected relation to the bracket structure so that the said element 7 is always in position for use and requires only to be swung back about the lower leg of the bolt 10 as a pivot, which pivotal movement of the element 7 is limited by the aforesaid finger 15, after which the parts are securely clamped by means of the outer nuts 14. The whole device is readily and conveniently adjusted by loosening of the inner nuts 14, whereupon the bracket structure may be adjusted vertically as a whole into any desired elevation with reference to the upright member 4.

While I have shown and described what I now regard as the preferred form of construction, I desire to reserve the right to make such changes as may fairly fall within the scope of the following claims.

What I claim is:

1. The combination with an upright, of a stringer, and a bracket structure carried by said upright and supporting said stringer, said bracket structure comprising a pair of bracket elements, one of said elements being adapted to be clamped to said upright and the second element being adapted to clamp said stringer against said first-named element, and a U-bolt embracing said upright and securing said bracket elements together by separate engagement therewith at diagonally opposite points above and below said stringer.

2. The combination with an upright, of a stringer, and a bracket structure carried by said upright and supporting said stringer, said bracket structure comprising bracket elements adapted to embrace said stringer between them, and a U-bolt embracing said upright and securing said bracket elements together by engagement therewith at diag-

onally opposite points above and below said stringer, one of the legs of said U-bolt being longer than the other leg for pivotally supporting the outer bracket elements in applying or removing the stringer.

3. The combination with an upright, of a stringer, and a bracket structure carried by said upright and supporting said stringer, said bracket structure comprising bracket elements adapted to embrace said stringer between them, and a U-bolt embracing said upright and securing said bracket elements together by engagement therewith at diagonally opposite points above and below said stringer, one of the legs of said U-bolt being longer than the other leg for pivotally supporting the outer bracket element in applying or removing the stringer, the inner bracket element being provided with a stop finger limiting the swinging movement of said outer bracket element back to stringer-engaging position.

4. The combination with an upright, of a stringer, and a bracket structure carried by said upright and supporting said stringer, said bracket structure comprising bracket elements having their intermediate portions recessed for accomodating the stringer between said elements, and a U-bolt embracing said upright and provided with nuts having separate engagement with said bracket elements at diagonally opposite points above and below said stringer.

5. The combination of an upright, a stringer extending crosswise thereof, a bracket secured to the upright and interposed between the same and the stringer, means for clamping said bracket to said upright, a pivoted clamping member for the stringer, and means for clamping the pivoted member against the stringer and the latter against the bracket.

In witness whereof I hereto affix my signature.

FOKKO BRANDT.