F. B. JOHNSTON.

COMBINED SCAFFOLD BENCH AND ANCHOR.

APPLICATION FILED JAN. 11, 1922.

1,437,593. Patented Dec. 5, 1922.

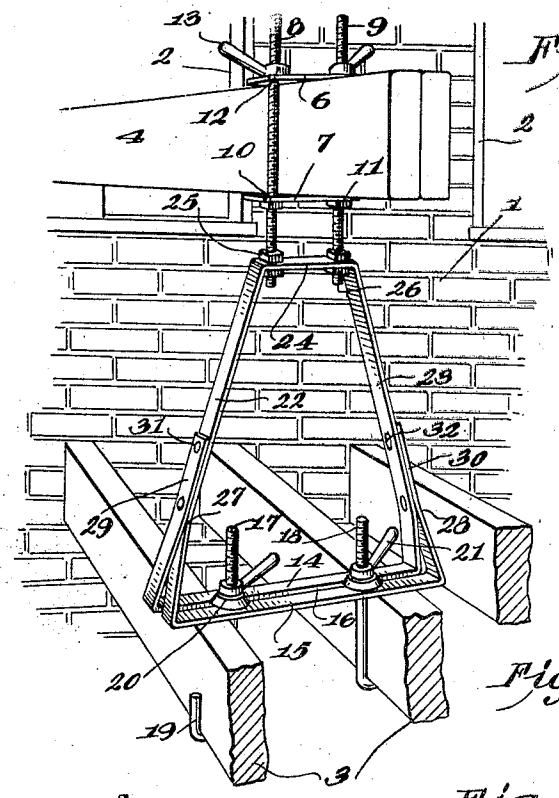


Fig. 1.



Fig. 6.

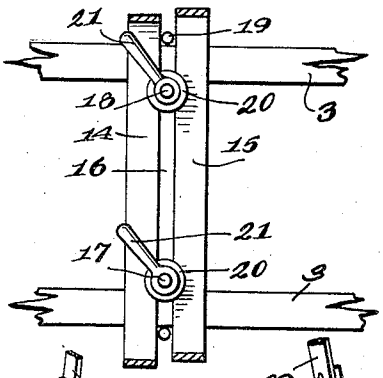


Fig. 3.

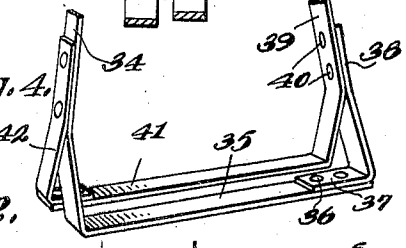


Fig. 4.

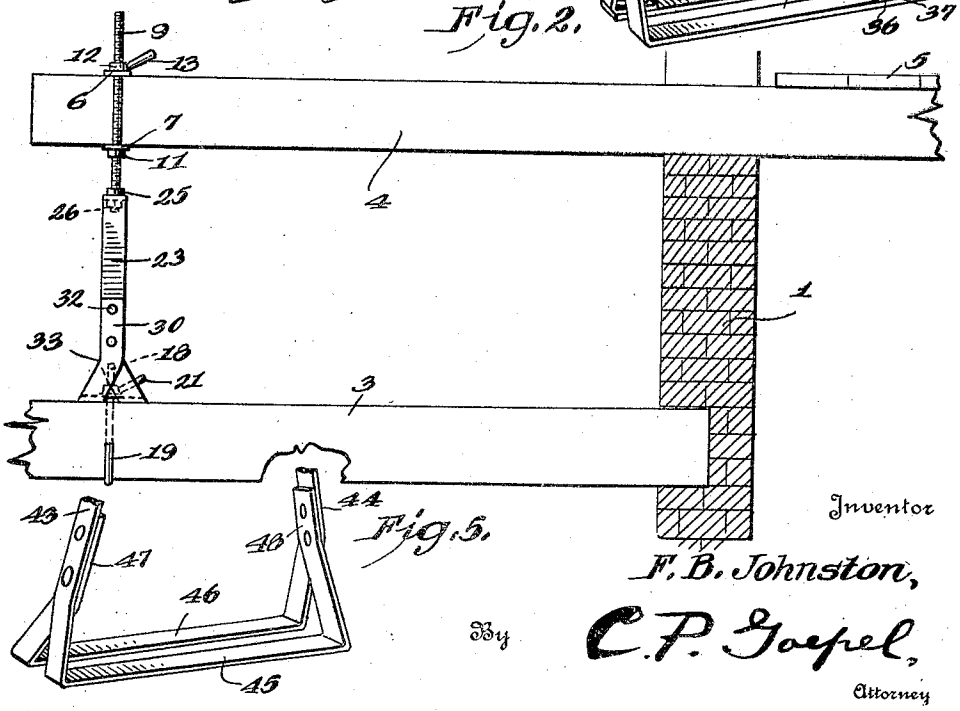


Fig. 2.

Fig. 5.

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UNITED STATES PATENT OFFICE.

FRANK B. JOHNSTON, OF NEW YORK, N. Y., ASSIGNOR TO AMERICAN SAFETY DEVICE COMPANY, A CORPORATION OF NEW YORK.

COMBINED SCAFFOLD BENCH AND ANCHOR.

Application filed January 11, 1922. Serial No. 528,566.

To all whom it may concern:

Be it known that I, FRANK B. JOHNSTON, a citizen of the United States of America, and a resident of the city of New York, in the county of Bronx, in the State of New York, have invented certain new and useful Improvements in Combined Scaffold Benches and Anchors, whereof the following is a specification.

The present invention relates to improvements in combined scaffold bench and anchor, and more particularly refers to an improved device for holding the inner ends of outriggers while providing for the vertical adjustment thereof to enable the outrigger to extend in a substantially horizontal direction through windows of varying heights and to enable the secure anchoring of the device to parts of the building, for instance the floor joists.

It is an object of the invention to provide for the quick and convenient erection of the outrigger and combined bench and anchor at the height of the window sill and to provide a simple and inexpensive means for attaching the outrigger to the bench and, through the bench, to the floor beams.

With the foregoing and other objects in view, the invention will be more fully described hereinafter, and will be more particularly pointed out in the claims appended hereto.

In the drawings, wherein like symbols refer to like or corresponding parts throughout the several views,

Fig. 1 is a fragmentary perspective view of a building structure and outrigger with an improved combined scaffold bench and anchor constructed according to the present invention;

Fig. 2 is a fragmentary side view of the same with a portion of the building wall in section;

Fig. 3 is a horizontal sectional view taken through the improved bench and anchor and showing the floor joists; broken away;

Fig. 4 is a fragmentary perspective view of the lower portion of the holding frame showing a slight modification;

Fig. 5 is a similar view showing a further modified form of the frame; and,

Fig. 6 is likewise a fragmentary perspective view showing a modified construction of the top portion of the frame.

Referring more particularly to the drawings, 1 designates generally the wall of a building in course of erection, while 2 indicates windows and 3 floor joists. An outrigger, composed of companion beams, is represented at 4 and is shown in Fig. 2 to extend out through a window and to provide a support for a scaffold 5.

The invention provides for the holding and anchoring of the inner portion of the outriggers 4 to avoid the rocking of the same upon the window sill and to firmly hold the outrigger in place to the end that a safe place may be provided for workmen upon the scaffold 5.

In accordance with the invention, the inner end portion of the outrigger 4 is secured above and below by the use of clamp plates 6 and 7, respectively, which are received loosely over a pair of threaded standards 8 and 9 rising at opposite sides of the outrigger and receiving beneath the lower plate 7 nuts 10 and 11, which may be run up and down upon the standards and suitably adjusted in order that the lower plate 7 may lie in substantially horizontal alignment with the sill of the window through which the outrigger is to be projected. In this way, accurate horizontal alignment of the outrigger may be secured and as a consequence, the scaffold parts 5 may be made to lie in a virtually horizontal position to afford the best practicable footing for workmen.

The pitch of the threads upon the standards 8 and 9 is preferably fine or high in order to enable the user to secure a nice adjustment. The upper plate 6 is also clamped down tightly against the upper portion of the outrigger to prevent the possible rocking of the outrigger upon the window sill in case heavy weights should be imposed upon the scaffold 5. This clamping of the upper plate 6 is secured by nuts 12 having handles 13 by which they may be turned in one or the other direction accordingly as it is desirable to clamp the outrigger in place or to withdraw the plate 6. The clamp is carried upon a holding frame which is anchored to a part of the building structure, preferably the floor joists 3, as these are found suitable for this purpose.

The holding frame according to the construction shown in Fig. 1 is composed of a relatively wide base in two sections 14 and 15 having an elongated slot 16 between

them to receive the shanks 17 and 18 of anchoring clamps having out-turned hooks 19 at their lower ends of a construction and design suitable for engaging beneath the under portions of the joists 3. The upper parts of the shanks 17 and 18 are threaded to receive the nuts 20 having the handles 21 for convenience in turning them. The holding frame further comprises upwardly converging sides 22 and 23 and a relatively short top connecting bar 24 which joins the convergent ends of the sides 22 and 23. The bar 24 receives therethrough the lower portions of the threaded standards 8 and 9, and clamp nuts 25 and 26 are used above and below the bar 24 to secure the standards 8 and 9 in place thereon and against casual rotation.

The holding frame is, for the sake of lightness and economy in manuafcture, made of an open or skeleton form, and for convenience and economy preferably of strap metal which may be readily bent into the form illustrated, requiring a single piece of the metal only. The intermediate portion of this single length of strap metal is arranged and disposed to provide the horizontal top bar 24, the sides 22 and 23 being bent from the top bar and extending downwardly to the base section 15, the metal being slightly off-set as at the points 27 and 28 to permit of the base section 15 lying slightly off center with respect to the remainder of the frame and to one side of the slot 16. The slot 16 is by preference made to lie in a central position, the other base section 14 lying equally off-set and in an opposite direction to the base section 15.

It will be noted that section 14 forms a continuation of the side member 23 and that the extremities 29 and 30 of the metal strap are made to lie along the outer faces of the sides 22 and 23 and are carried upwardly to a suitable elevation in order that they may take suitable extensive bearing thereagainst. Appropriate fastenings 31 and 32 are supplied to secure the extremities to the sides. It will be noted by reference to Fig. 2, that the extremities 29 and 30 are also suitably off-set as indicated at 33 so as to properly join with the base sections.

Referring more particularly to Fig. 4 a slight modification is herein shown in which the side member 34 extends downwardly to the base section 35 and after completing the base section 35, the metal stops abruptly and is secured as by fastenings 36 to a substantially horizontal flange 37 of a brace 38 extending upwardly and against the companion side member 39 to which it is attached as by rivets or other fastenings 40. In this case, the base section 35 is off-set as respects the side members 34 and 39, and a slot is provided between them for the reception of anchoring shanks as above described. In a like manner, the side member 39 extends downwardly and into the opposite base section 41 which terminates abruptly after properly completing the base member and a similar brace 42 is secured to the side 34 and to the free end of the base section 41. In this case, the braces are also of bar metal and made separately from the holding frame generally, although forming component parts thereof.

Coming now to Fig. 5, the side members 43 and 44 are formed in one piece with the base sections 45 and 46 respectively, but instead of the extremities of the strap metal being carried on the exterior faces of the side members, the extremities 47 and 48 in this case are made to lie against the interior faces of the side members 43 and 44 and are attached thereto as by rivets or other fastenings. Here a single piece of metal is again employed.

In some cases, it is desirable, as shown in Fig. 6, to have the side members 49 and 50 in separate pieces and have the line of separation occur at the top connecting bar of the holding frame. In this case, the extremities 51 and 52 of the side members 49 and 50 are turned over into substantially the same horizontal plane and are perforated to receive the threaded standards 8 and 9 which also pass through a connecting bar 53 forming a separate piece and lying beneath the flanges 51 and 52. The various parts are held in place by the nuts 25 and 26.

In the use of the device, whatever of the above or other forms it may take, the holding frame is first adjusted upon a pair of the floor joists 3 to extend transversely thereof and to straddle the joists in the manner indicated in Fig. 1. The anchoring hooks 19 are engaged beneath the under portions of the joists and the shanks 17 and 18 are lifted upon turning the nuts in a proper direction by use of the handles 21. The final positions of these parts is such that the hooks 19 bind firmly upon the under edges of the floor joists while the base members 14 and 15 of the holding frame lie firmly in contact with the upper edges thereof. The lower plate 7 of the holding clamp for the outrigger is then adjusted roughly to position and the inner end portions of the outrigger placed thereupon. The proper alignment of the outrigger is then secured by having resort to the nuts 10 and 11 by which the plate 7 may be either raised or lowered as required to bring the plate 7 to the same elevation as the window sill upon which the outer portion of the outrigger is suspended.

The upper clamp plate 6 is likewise put in place above the top parts of the outrigger and the nuts 12 adjusted down against the plate to cause a clamping of the upper portion thereof. The plate 6 will prevent the

inner portion of the outrigger swinging upwardly, for instance when great weights of brick or mortar or other materials are laid upon the scaffold 5, and the confinement of the outrigger between the plates 6 and 7 will act in general to avoid any objectionable vibration or rocking in the scaffold.

The connection of the outrigger directly to the floor joists, which are permanent parts of the building structure, will insure a firm support, and the construction of the combined bench and anchor will enable the attachment of the device quickly and conveniently to the floor structure, and the accurate and quick adjustment of the bench or clamp to the outrigger.

The device is intended to replace the use of barrels which were placed directly upon the floor to support the outrigger, and the use of ropes attached between the outrigger and one of the floor joists to prevent the rocking of the inner portion of the outrigger upwardly from the barrel. Heretofore blocks of wood were placed upon upper ends of the barrels in order to secure a proper alignment of the outrigger with the window sill, but in all such cases it has always been difficult to secure a proper alignment and inclination would always occur in the platform or scaffold which makes it exceedingly dangerous to work upon.

The blocks cannot be found of a suitable size or thickness to meet all requirements, and to give even a roughly accurate alignment has required that these blocks be placed not only upon the barrels but also upon the window sills. With the old method, there is nothing to prevent the outriggers from swinging sidewise or toppling off the barrels, and especially is this so when a number of blocks have to be built up beneath the outriggers.

The present device avoids all of these objections, provides for the accurate alignment in a very short time of the outriggers and it will be appreciated that the device as proposed may be constructed and sold at small cost.

It is obvious that various changes and modifications may be made in the details of construction and design of the above specifically described embodiment of this invention without departing from the spirit thereof, such changes and modifications being restricted only by the scope of the following claims:

What is claimed is:

1. A combined bench and anchor comprising an upright holding frame having a base adapted to span a plurality of floor beams, anchoring clamps adjustable on said frame and adapted to engage said floor beams, and a clamp carried by and adjustable on said holding frame and adapted to support the inner portion of an outrigger.

2. A combined bench and anchor comprising a holding frame having a base portion adapted to transversely straddle a pair of floor joists, anchoring clamps adjustably carried by the base portion of the holding frame and adapted to have engagement with the under portions of the frame and means on the frame for supporting the inner portion of an outrigger.

3. A combined bench and anchor comprising an open holding frame having a relatively wide base adapted to extend transversely across a plurality of floor joists and having upwardly converging sides and a relatively narrow top portion connecting the sides, the base portion being slotted, anchoring clamps adjustably mounted in the slotted base and having hooks to engage with the under portions of the joists and further having means to bind the hooks in place, and means associated with the top portion of the holding frame for engaging an outrigger.

4. A combined bench and anchor comprising anchoring means adapted to engage with a portion of the building structure, and a clamp for the outrigger carried by said holding means comprising anchoring standards extending at opposite sides of the outrigger, and plates above and below the outrigger and adjustable on the standards, with means to adjust the plates and bind the same firmly against the outrigger.

In testimony that I claim the foregoing as my invention, I have signed my name hereunder.

FRANK B. JOHNSTON.