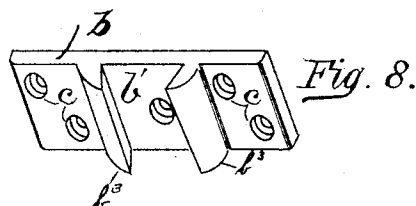
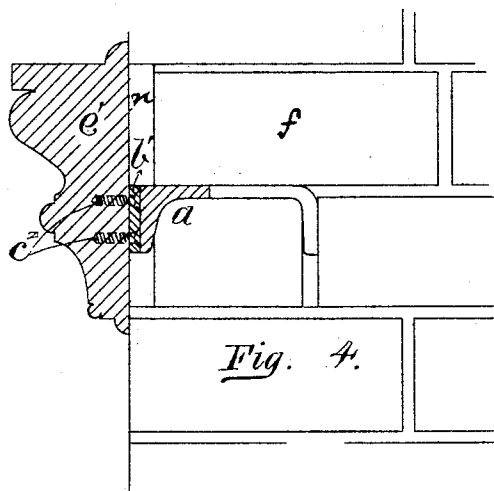
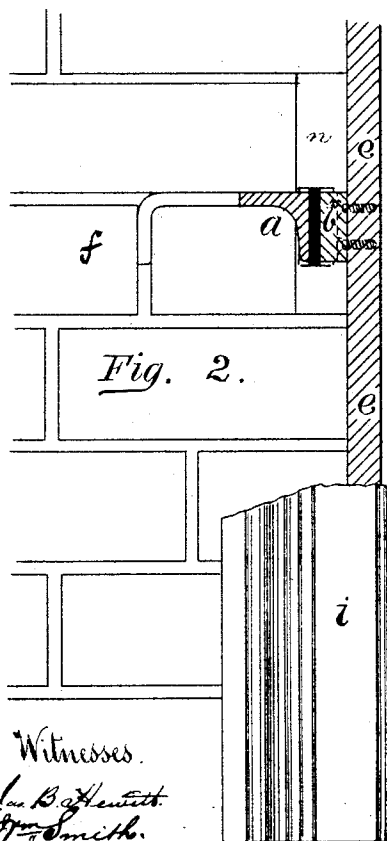
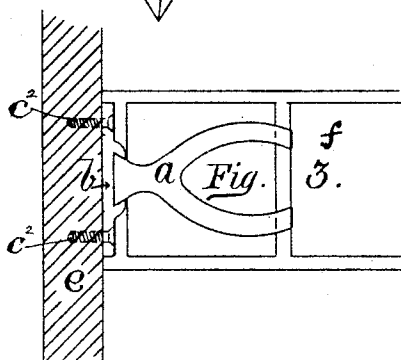
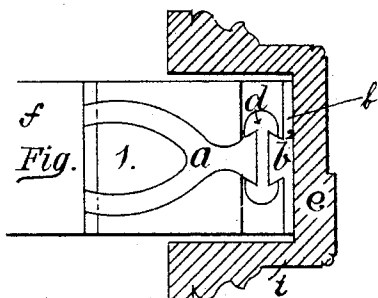
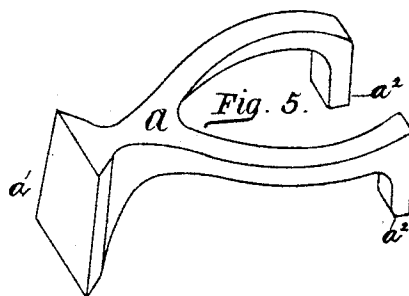
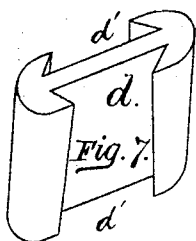
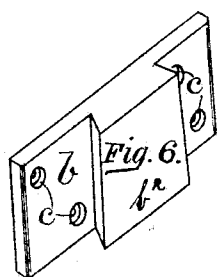


(No Model.)

J. HARTLEY.  
DEVICE FOR FIXING JOINERS' WORK.

No. 470,672.

Patented Mar. 15, 1892.



Witnesses.  
Jas. B. Hewitt.  
Wm. Smith.

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# UNITED STATES PATENT OFFICE.

JAMES HARTLEY, OF LEEDS, ENGLAND.

## DEVICE FOR FIXING JOINERS' WORK.

SPECIFICATION forming part of Letters Patent No. 470,672, dated March 15, 1892.

Application filed June 6, 1891. Serial No. 395,365. (No model.) Patented in England May 16, 1891, No. 8,425.

*To all whom it may concern:*

Be it known that I, JAMES HARTLEY, a subject of the Queen of Great Britain and Ireland, residing at Leeds, in the county of York, England, have invented a Device for Attaching Joiners' Work to Walls of Houses and other Buildings, (for which I have received Letters Patent in England, No. 8,425, dated May 16, 1891;) and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others to make and use the same.

In carrying out my invention I build into the brick-work (at suitable places) cast or wrought metal brackets, which for the sake of distinction are hereinafter referred to as the "fixed" brackets, and to the wood-work I also attach cast or wrought metal brackets by means of screws. These latter brackets are for the sake of distinction hereinafter referred to as the "wood-work" brackets. The wood-work brackets are arranged to fit the fixed brackets by means of a dovetailed connection, of which two kinds are requisite, according to whether the wood-work when in position can be moved for the purpose of making and unmaking the connection—as, for example, in the case of dado-framing and wall-brackets—or whether the wood-work when in position cannot be moved—as, for example, in the case of window and door casements.

In order that my invention and the manner in which the same is to be carried out may be more clearly understood, I have annexed hereto the accompanying drawings, in which—

Figures 1 and 2 are respectively a horizontal and a vertical section showing my invention as applied to a window or door casement, in which case the wood-work is immovable in position—that is, it cannot be moved in order to make the connection between the fixed and the wood-work brackets. Figs. 3 and 4 are respectively a horizontal and vertical section showing my invention as applied to a dado-framing, in which case the wood-work when in position can be lowered and raised in position for making and unmaking the connection between the fixed and the wood-work bracket. Fig. 5 is a perspective view of the fixed bracket. Fig. 6 is a perspective view of the wood-work bracket employed in the

case shown in Figs. 1 and 2, Fig. 7 showing the double-recessed block used to complete the connection in the case of Figs. 1 and 2, while Fig. 8 is a perspective view of the wood-work bracket used in Figs. 3 and 4.

In all the figures the same reference-letter refers to the same or a corresponding part.

*a* is the fixed bracket, provided at the outer end with the tenon or wedge *a'* of the dovetail connection. The inner end is provided with two claws *a<sup>2</sup> a<sup>2</sup>* to secure it more firmly within and to the brick-work *f*. The embedded portion of the bracket—that is, the horizontal portion and the claws *a<sup>2</sup> a<sup>2</sup>*—is of such a thickness as to lie conveniently in the mortar-space between two bricks.

*b* is the wood-work bracket, which in Figs. 1, 2, and 6 is also provided with a dovetail tenon or wedge *b<sup>2</sup>*, while in Figs. 3, 4, and 8 the same is provided with a dovetail recess or mortise *b'*, formed by lugs *b<sup>3</sup>*, in which the tenon or wedge of the bracket *a* fits. The wood-work bracket *b* is fixed to the wood-work *e* by means of screws *c<sup>2</sup>*, passing through the countersunk holes *c c* in the bracket.

In Figs. 1 and 2, where the wood-work is immovable in position, and consequently also the fixed and wood-work brackets are not movable relatively to each other, I provide the doubled-recessed block *d*, having dovetail recesses *d' d'*, one on each side, such recesses being wider on the under than on the upper side, so that the block *d* can be dropped or driven from the upper side down over the wedges of both the fixed and wood-work brackets, wedging or tightening the connection.

In Fig. 2 and also in Fig. 4 the bricks immediately below and above the fixed bracket are shown set back, so as to give more room to drop the block *d* (or the bracket *b*) over the wedge of the fixed bracket *a*. This setting back of the upper brick and also of the lower brick is not, however, necessary, for the tenon-piece of the bracket *a* may project beyond the line of the brick-work.

In Figs. 3, 4, and 5 both the tenons or wedges and the recesses of the dovetail connection are formed slightly narrower across the top or upper side than on the under side, so that, while the wood-work bracket can be readily dropped over onto the wedge or tenon from

the upper side, it cannot pass down beyond, but is supported by the fixed bracket when the wood-work bracket *b* has been dropped down on the fixed bracket so far as to cause  
5 the connection to be wedged tight. The outer end of the bracket *a* being of different widths across the top and bottom, forms a wedge, and is hence herein referred to as the tenon or "wedge" of the dovetail connection.

10 *e* is the wood-work, respectively window-casement, Figs. 1 and 2, and dado-framing, Figs. 3 and 4. The space *n* immediately behind the wood-work *e* and above and below the projecting end of the bracket *a* is left  
15 unfilled. The block *d* in Figs. 1 and 2 is wedged down after the casement *e* has been placed in position and before the side pieces *i* of the wood-work are attached to the casement *e*.

20 As examples of joiners' work for which my improved means of fixing is applicable may be cited casements, window-frames, outdoor frames, casings for doors, architraves, chair-

rails, dado-framing, picture-molds, cornices, and wall-brackets.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In devices for fixing joiners' work, the combination, with the part *a*, having tenon  
30 *a'* and arms *a*<sup>2</sup> *a*<sup>2</sup>, of the part *b*, provided with lugs *b*<sup>3</sup> *b*<sup>3</sup> and apertures *c c*, substantially as set forth.

2. In devices for fixing joiners' work, the combination, with one member formed of a  
35 pair of arms to engage the brick-work and being provided with a wedge-shaped tenon, of another member also provided with a wedge-shaped tenon and constructed to be secured to the wood-work and a block provided with  
40 two wedge-shaped recesses to engage said tenons, substantially as set forth.

JAMES HARTLEY.

Witnesses:

JAS. B. HEWITT,

WM. SMITH.