P. J. FOLEY.

BRACKET FOR RAFTERS.

APPLICATION FILED JULY 14, 1911.

1,129,462. **Patented Feb. 23, 1915.**

2 SHEETS—SHEET 1.

Fig. 1.

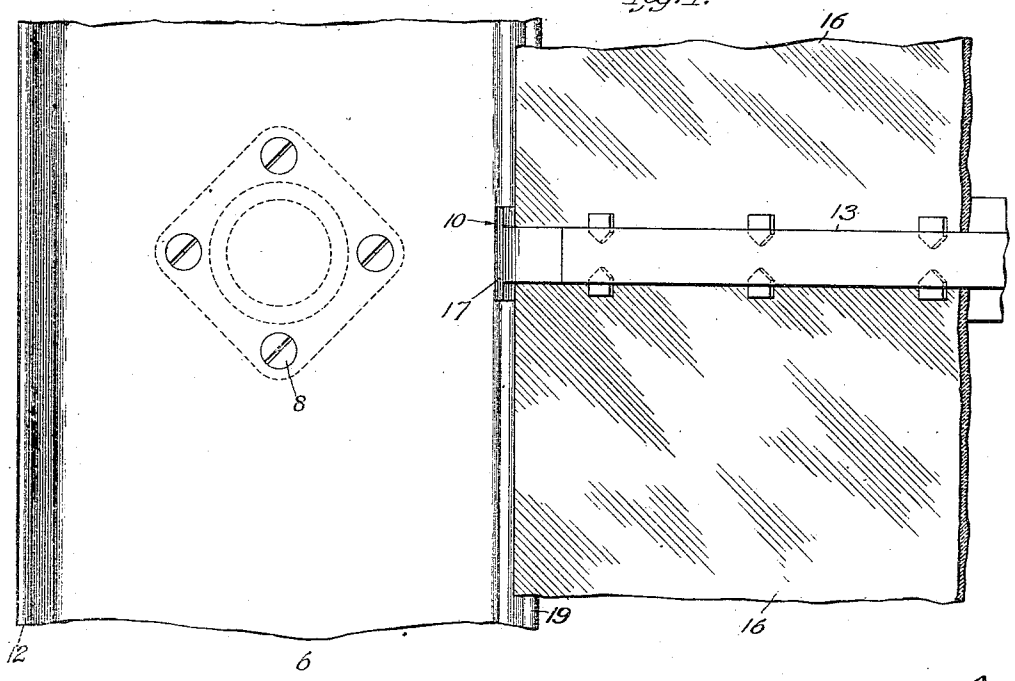


Fig. 2.

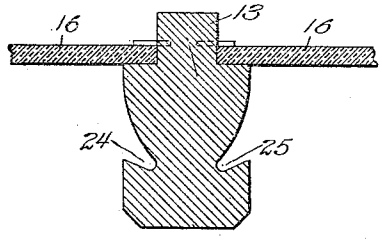


Fig. 3.

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2 SHEETS—SHEET 2.

Fig. 4.

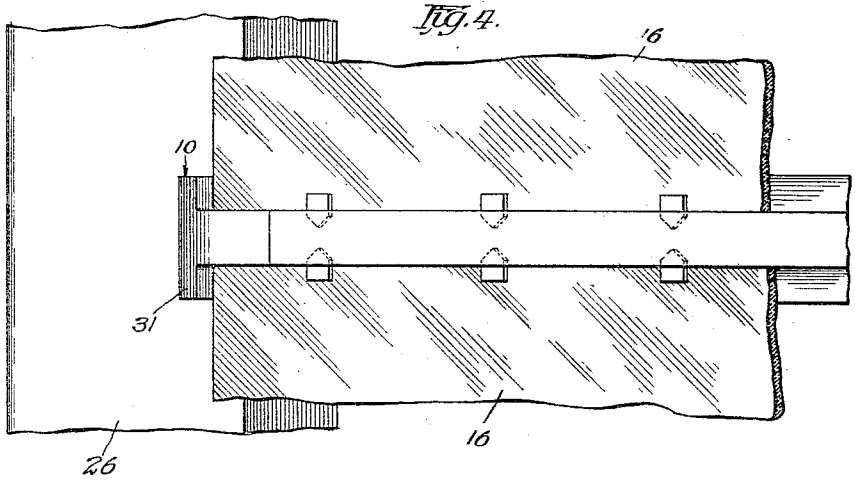


Fig. 5.

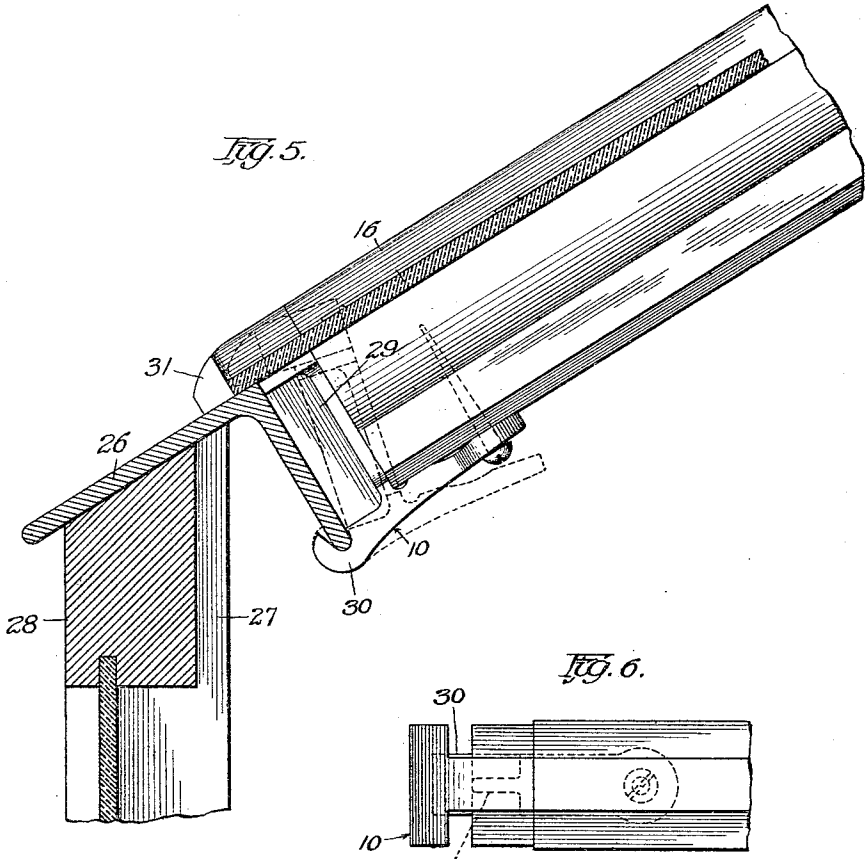


Fig. 6.

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UNITED STATES PATENT OFFICE.

PHILIP J. FOLEY, OF CHICAGO, ILLINOIS.

BRACKET FOR RAFTERS.

1,129,462. Specification of Letters Patent. Patented Feb. 23, 1915.

Application filed July 14, 1911. Serial No. 638,590.

To all whom it may concern:

Be it known that I, PHILIP J. FOLEY, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Brackets for Rafters, of which the following is a full, clear, and exact specification.

This invention relates to improvements in brackets for rafters, and which is also especially adapted for the sash bars of a greenhouse roof, which have heretofore required a plurality of angle plates and bolts for the connection of the rafter with its support, be it the eave or the gutter of the roof.

The prime object of this invention, broadly stated, is to support the rafter or sash bar, as may be, from either the eave or the gutter, in turn supported by means of a post, pillar or column of any construction.

A further object is a bracket simple and cheap of construction which is not only adapted for connecting a beam or sash bar with standard forms of metal beams, such for example as angle and channel beams, but which is self locking thereon, while at the same time the tightening of the lock is increased with increasing weight or pressure of the rafter or sash bars, as may be, and the weight of the glazing and other accessories necessitated by a roof or a sash bar construction.

A still further object of my invention is to have such a self locking bracket so constructed that condensations upon glass or other roofing will be discharged before having time to enter the joints between the glazing or roofing and the sash bars or rafters thereof.

A still further object is a self locking bracket connecting the rafter or sash bar with an eave plate and gutter, as may be, and so constructed that the condensing surface thereof is reduced to a minimum, while at the same time the condensations collected by the sash are discharged therefrom entirely free and clear of their supporting bracket.

With these ends in view, my invention finds embodiment in certain features of novelty in the construction, combination and arrangement of parts by which the said objects and certain other objects are hereinafter attained, all as fully described with reference to the accompanying drawings, and more particularly pointed out in the claims.

In said drawings: Figure 1 illustrates, in detail top plan view, a roof and channel beam gutter in which my invention finds embodiment. Fig. 2 is a detail transverse section through the roof or sash bar with the glazing or roofing supported in its opposite position thereon. Fig. 3 is a detail side elevation of the rafter or sash bar in its operative position on a channel beam gutter in transverse section. Fig. 4 is a detail top plan view showing the application of a modified form of a bracket embodying my invention connecting a rafter or sash bar with an eaves plate supported by a post or pillar. Fig. 5 is a side elevation thereof partly in section; and, Fig. 6 is a detail top plan view of a rafter or sash bar and the bracket shown in Fig. 5.

Similar characters of reference indicate the same parts in the several figures of the drawings.

6 indicates a standard form of channel beam forming a gutter supported by a pillar or post 7, to which the gutter is secured by means of countersunk bolts 8 and nuts 9, but which may be by any other well known and commonly used fastening devices. In practice the channel beam gutter 6 is preferably used as a drain or gutter between duplex roofs, and for which purpose the opposing flanges of the channel beam serve as a means for supporting the rafters or sash bars of the roof for connecting therewith the self locking bracket 10.

The bracket 10 in practice is preferably of malleable iron, cast in one piece for purposes hereinafter described, the web portion 11 of which is quite narrow, as illustrated in Fig. 6, the edges of which together with the flanges 12 provide a face against which is opposed the end of a rafter or sash bar 13, which rests on a flange 14 projecting inwardly from and forming a part of the bracket, the upper portion of the bracket 10 providing a seat 15 upon which to rest the ends of glazing or other roof covering 16. Laterally projecting lugs 17, at each side of the bracket, form an abutment for the glazing or other roof covering, which by an undercut 18 forms an upper hook resting upon and engaging one side flange 19 of the channel beam. The bracket is also provided at its outer lower edge with a lug 20 in which is an angular

recess 21 adapted to simultaneously embrace the outer and under faces of the channel beam gutter adjacent thereto, with the result that when the bracket is driven to place it will be immovably secured in its operative position without the aid of screws, bolts or other fastening devices heretofore necessarily employed for that purpose. It should further be noted that there is an opening between the outer edge of the seat 15 and the lugs 17, which provides for the discharge of condensations occurring at that point through the bracket casting, and it may also be observed that the flange 14 of the casting may have the rafter or sash bar secured to it by means of a screw 23 passing through the flange into said rafter or sash bar.

The rafter or sash bar 13 (see Fig. 2) is provided in its sides with opposing channels 24, 25, for gutters receiving and discharging condensations from said rafter or sash bar only from its lower end, and which directly fall therefrom owing to the narrowness of the web of the bracket, which narrowness of the bracket at this point also serves to prevent its casting shadows which is important when used as a support for sash bars of a green house.

In Figs. 4, 5 and 6 is illustrated the adaptation of my invention to the connection of a rafter or sash bar with an eaves plate 26, angular in cross section and preferably of standard form, in turn supported from posts 27 and by the girders 28 connecting a number of said posts. For its adaptation to an eave the web member 29 of the bracket 10 is rectangular in form, and provided with a hook 30 at its lower end, and with a lug 31 bearing against the eaves plate 26, and is locked to the eaves by swinging it upwardly instead of as in Fig. 3 having the bracket triangular in form, the hook at the top and the bearing lug at the bottom and locking the bracket to the flange of a trough by a downward swinging movement. In principle, and mode of operation and result, however, the brackets shown in Figs. 3 and 5 are substantially the same in that they form an end support for a rafter or sash bar, may be locked to the flange and web of an angle iron, in turn supported by a post, that they are self-locking when driven tightly to place, and tighten as the weight imposed upon them by the rafter or sash bar structure is increased.

Both forms of connecting brackets are preferably made of malleable iron, for the reason that they will yield and bend to pressure, and may thereby be fitted closer and tighter to a channel iron trough or an angle iron eaves plate, and without liability to fracture than if of cast iron or any other metal that will not yield to the force to which they are and may be subjected in securing the brackets to their support.

In conclusion, it should be observed that in both the brackets of Figs. 3 and 5, their hooks and seats are in differing perpendicular planes, so that on engaging their hooks with the angle irons forming either a gutter or an eaves plate, the bracket may be swung to its operative position, in which the lug then bears tightly against the face web and the flange of the angel iron, with the result that the bracket is locked and self-locked by its swinging movement on swinging it to its operative position.

Having described my invention, what I claim and desire to secure by Letters Patent is:—

1. A bracket for connecting a rafter or sash with an angle iron support, provided with an angular seat adapted to embrace both sides of the corner of said angle iron and an opposing hook for simultaneously overlapping the flange of the angle iron, which seat and hook form an integral part of the bracket, whereby a perpetually rigid detachable wedging joint is formed between a bracket and angle iron, substantially as described.

2. A bracket for connecting a rafter or sash with an angle iron support, having formed integrally therewith an angular seat adapted to embrace both sides of a corner of said angle iron, an opposing hook the inner face of which extends at an oblique angle to the face of said seat, whereby a perpetually rigid, detachable joint formed between an angle iron and a rafter supporting bracket on first engaging the hook with the flange, and then swinging the seat inwardly to its outwardly engagement with the corner of the angle iron, the bracket is locked thereto by a wedge-like action substantially as described.

3. A bracket of approximately triangular form for connecting a rafter or sash with an angle iron support provided at its apex with a hook adapted to hook over the flange of an angle iron, and an angular seat opposing said hook, which said hook and seat are integral with the bracket whereby the bracket may be swung to a permanently locked position by a wedging engagement with the angle iron and sustained at an oblique angle thereto, substantially as and for the purpose described.

In witness whereof, I have hereunto set my hand and affixed my seal, this 11th day of July A. D. 1911.

PHILIP J. FOLEY. [L. S.]

Witnesses:
F. E. Brom,
Jno. G. Elliott.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."