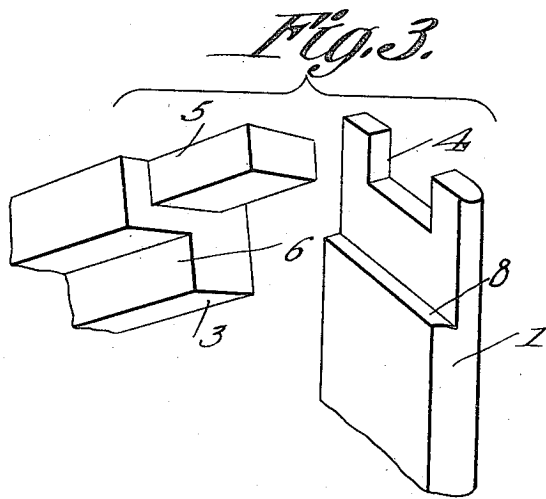
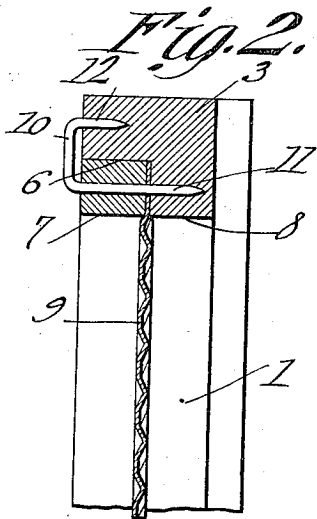
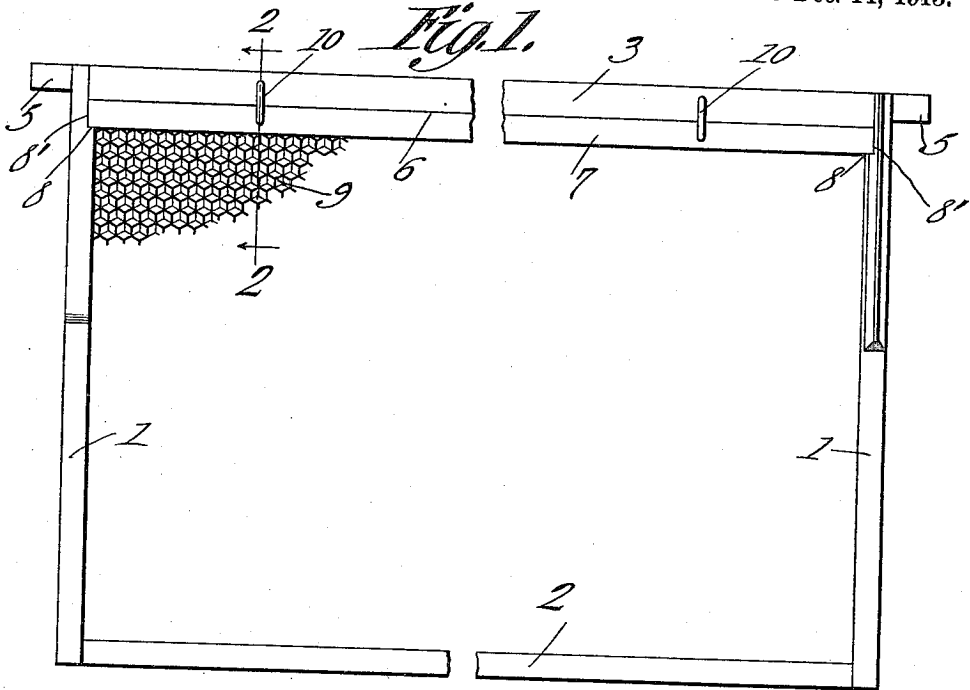


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 HONEYCOMB FRAME.  
 APPLICATION FILED OCT. 23, 1914.

1,164,192.

Patented Dec. 14, 1915.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## HONEYCOMB-FRAME.

1,164,192.

Specification of Letters Patent.

Patented Dec. 14, 1915.

Application filed October 23, 1914. Serial No. 868,250.

*To all whom it may concern:*

Be it known that I, BAZEL L. JOHNSON, a citizen of the United States, residing at Elkin, in the county of Surry and State of North Carolina, have invented a new and useful Honeycomb-Frame, of which the following is a specification.

The present invention appertains to honeycomb frames, and aims to provide a novel and improved means in a honeycomb frame, for attaching the foundation thereto.

It is also within the scope of the invention, to provide a honeycomb frame with simple, yet practical, convenient and efficient means for attaching the foundation to the upper bar of the frame, and which will not be encumbering or troublesome in its use.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, can be made within the scope of what is claimed, without departing from the spirit of the invention.

The invention has been illustrated in its preferred embodiment in the accompanying drawing, wherein:—

Figure 1 is a side elevation of a honeycomb frame embodying the improved foundation fastener. Fig. 2 is an enlarged sectional view taken on the line 2—2 of Fig. 1. Fig. 3 illustrates in perspective, the adjacent ends of one end member and the upper bar in separated position.

The honeycomb frame, as usual, embodies the upright end pieces 1, having the lower bar 2 terminally attached to their lower ends, and having the upper bar 3 attached to their upper ends. The upper ends of the end pieces 1 are provided with notches or mortises 4, while the ends of the upper bar 3 are provided with tenons 5 secured within the mortises 4 and projecting from the end pieces 1 to support the frame in a pendant position within the hive.

In carrying out the present invention, the upper bar 3 is provided with a lower rabbet 6 at one side extending to the end pieces 1, for the reception of a clamping bar or cleat 7, the clamping bar or cleat 7 being of a cross sectional area to fit snugly within the rabbet 6 flush with the bottom and respective side of the upper bar 3. The clamp-

ing bar or cleat 7, as well as the parts of the frame proper, are constructed of wood, although other suitable material may be employed.

The upper terminals of the end pieces 1 of the frame are reduced in thickness to provide inner shoulders 8 upon which the ends of the upper frame bar 3 are seated, the shoulders 8 forming with the ends of the rabbet 6, recesses or notches 8' receiving the ends of the clamping bar or cleat 7. The upper edge of the artificial foundation 9 is adapted to be clamped between the bar or cleat 7 and the vertical or inner wall of the rabbet 6, so that the foundation 9 depends within the frame.

The clamping bar or cleat 7 is secured within the rabbet 6 of the upper bar 3 of the frame, by means of staples or fasteners 10 having relatively long prongs 11 engaged through the bar or cleat 7 and terminally engaged into the bar 3, and having the relatively short prongs 12 engaging into the bar 3 above the bar or cleat 7. The staples or fasteners 10 may be driven into engagement with the parts, or the parts may be provided with suitable apertures for the reception of the prongs of the staples.

To apply the foundation 9 to the honeycomb frame, the clamping bar or cleat 7 is removed, and the upper edge of the foundation is then placed within the rabbet 6, and the clamping bar or cleat 7 is inserted into the rabbet with the ends of the clamping bar entering the notches 8'. Then, by pressing the clamping bar 7 firmly into place, and by inserting the staples or fasteners 10 into the clamping bar 7 and frame bar 3, the foundation will be firmly held in a pendant position in the frame, so that when the frame is inserted into the hive, the bees may readily build up the honey cells upon the opposite sides of the foundation. The ends of the clamping bar 7 being received by the recesses or notches 8' of the end pieces 1, serve as a primary means for supporting the clamping bar, while the staples or fasteners 10 serve as secondary means for supporting the clamping bar, to prevent the same from sagging or becoming loosened. The relatively long prongs 11 of the staples or fasteners may be readily inserted through the clamping bar after the clamping bar has been applied within the rabbet 6 for clamping the foundation and then, the staples may be pressed

or driven home so that their ends engage the frame bar 3.

After the honeycomb is completed, and the frame removed from the hive, the honeycomb may be readily removed from the frame, especially when the clamping bar or cleat 7 is removed therefrom to loosen the comb. The clamping bar 7 may be readily removed, by inserting a suitable implement under the staples 10 and extracting them from the bar 3 of the frame. A new foundation may then be applied to the frame, when it is again desired to employ the same.

The present honeycomb frame is most convenient and efficient in its use, and is of advantage for obvious reasons to those versed in the art.

It is to be noted that the ends of the clamping bar seat upon the shoulders 8, to support the ends of said bar in an efficient manner, and the ends of the clamping bar abut against the end pieces to prevent the clamping bar from shifting longitudinally. Importance is attached to the provision of the staples at spaced points between the end pieces, said staples having certain prongs projecting through the clamping bar and entering the upper bar behind the clamping bar, and having their other prongs entering the upper bar above the rabbet. Thus, the staples will effectively prevent the clamping bar from sagging or warping, which is so apt to occur. Considerable trouble has been experienced with ordinary honeycomb frames, since such frames are subjected to different temperatures and conditions which are unfavorable. The staples also have other functions, it being noted that the bends thereof project from the bars, whereby when a number of the frames are placed side by side, the staples will space the upper bars apart, to provide slots or passages through which the bees can pass upwardly from the foundations. This is a desirable feature, and furthermore, the bends projecting from the bars enable a suitable

implement to be readily inserted behind the staples so that the staples can be extracted conveniently.

Having thus described the invention, what is claimed as new is:—

1. A honey comb frame having an upper bar provided with a lower longitudinal rabbet at one side, a clamping bar fitting in said rabbet, and staples having relatively long prongs projecting through said clamping bar and entering the upper bar behind said clamping bar and having relatively short prongs entering the upper bar above the rabbet, to prevent the clamping bar from sagging or warping, the bends of the staples projecting from the bars to provide spacing means and to enable the staples to be readily extracted, the relatively long prongs of the staples remaining in the clamping bar after the prongs are withdrawn from the upper bar of the frame.

2. A honey comb frame comprising upright end pieces and an upper bar having its ends secured to the end pieces, the upper bar having a lower longitudinal rabbet along one side, the end pieces having shoulders below the ends of the rabbet, a clamping bar fitting in said rabbet and having its end seating on said shoulders and abutting against the end pieces, and staples at spaced points between the end pieces having certain prongs projecting through said clamping bar and entering the upper bar behind said clamping bar, and having their other prongs entering the upper bar above the rabbet, to prevent the clamping bar from sagging or warping, the bends of the staples projecting from the bars to provide spacing means and to enable the staples to be readily extracted.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

BAZEL LEROY JOHNSON.

Witnesses:

E. A. BUTNER,  
M. T. BROYHILL.