

K. HAWKINS.
 BROOD FRAME.
 APPLICATION FILED FEB. 10, 1921.

1,414,016.

Patented Apr. 25, 1922.

Fig. 2.

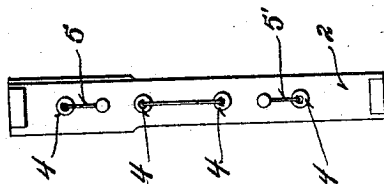


Fig. 1.

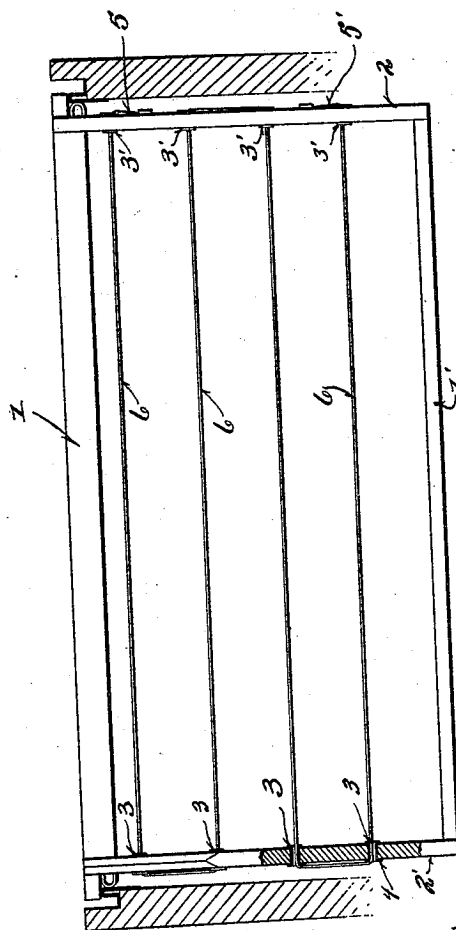
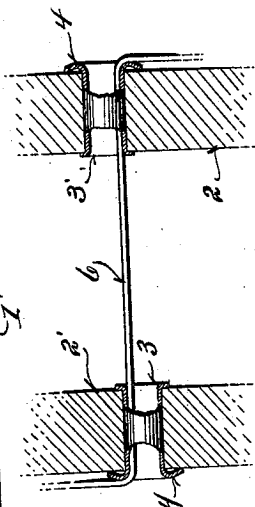


Fig. 3.



Witness:
 Robert E. Weber

Inventor:
 Kenneth Hawkins
By Young & Young
Attorneys.

UNITED STATES PATENT OFFICE.

KENNETH HAWKINS, OF WATERTOWN, WISCONSIN, ASSIGNOR TO G. B. LEWIS COMPANY, OF WATERTOWN, WISCONSIN.

BROOD FRAME.

1,414,016.

Specification of Letters Patent. Patented Apr. 25, 1922.

Application filed February 10, 1921. Serial No. 443,921.

To all whom it may concern:

Be it known that I, KENNETH HAWKINS, a citizen of the United States, and resident of Watertown, in the county of Jefferson and State of Wisconsin, have invented certain new and useful Improvements in Brood Frames; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention refers to rectangular frames for the support of honey combs, particularly adapted for brood purposes, the frames being composed of wood strips, and the end strips of which are provided with aligned openings, adapted to receive a wire strand, which is alternately threaded through the two series of openings in a zig-zag course, under tension, for the support of the comb. In practice, it has been found that owing to the fact that the soft wood of the end bars, through which the openings are formed for the reception of the wires, will yield under tension of the wire and also under load of the comb, whereby the wires, thus cutting into the openings, will become loose and sag. Owing to this loosening of the tension of the wires, the honey combs, which are supported by them, will also sag and draw out of shape, whereby the distortion, due to sagging, will render the comb unfit for the rearing of a brood.

My invention therefore primarily comprises as a new article of manufacture a frame of the above character, having oppositely disposed companion sets of metallic eyelets extending through the end bars of the frame for the reception of the wire strand, whereby when the wire is put under tension, "a metal to metal contact" is effected throughout the entire fabricated structure to thus effectually prevent loosening of the wires through sagging, whereby the parts of the frame, as a whole, are maintained in their normal rigid relations to thus insure the desired results. It will also be observed that in the old style of frame where the wire strand under tension will cut into the wood, the loosened wires will thus lose their bracing effect of the entire structure, so as to cause it to quickly deteriorate under ordinary conditions.

Another object of my invention is to provide the end bars with axially aligned outer pairs of metallic eyelets and with the intermediate series of companion pairs slightly

offset from axial alignment, whereby the wire strand, when run through such eyelets in zig-zag formation, will assume parallel relations.

With the above and other minor objects in view, the invention consists in certain peculiarities of construction and combination of parts, as are hereinafter set forth with reference to the accompanying drawings and subsequently claimed:

In the drawings,

Figure 1 represents a side elevation of a rectangular wooden hive frame embodying the features of my invention, parts being broken away and in section to more clearly illustrate the structural features.

Figure 2 is an end view of the same, and Figure 3 is a detail magnified view of a pair of the intermediate metallic eyelets showing end relative positions, whereby strand of wire running through them will engage the upper wall of one eyelet and the lower wall of the other.

Referring by characters to the drawings, 1 1' represents longitudinal strips of a rectangular hive frame, the said strips being suitably connected by transverse wooden end strips 2 2'.

The end bars have fitted therethrough and upset, series of oppositely disposed metallic eyelets 3 3', each of said eyelets being formed with dished heads 4, as best shown in Figure 3, to thereby form a slight cushion or resiliency, it being understood that the mouth ends of the eyelets are curved so as to present a rounded surface. The bottom end top set of eyelets are positioned in axial alignment with each other, and the intermediate companion sets, as best illustrated in Figure 3, are disaligned slightly for the purpose to be hereinafter described. One end 5 of a wire strand 6 is secured to the outer face of the frame bar 2 and the wire is thereafter threaded through the first eyelet, and thence across the frame to its companion eyelet, from which point it is trained down to the intermediate eyelet, and from thence across the frame to the companion intermediate eyelet forming parallel stretches. The wire is then trained downwardly to the first intermediate eyelet of the second series, and from thence across the frame to its companion eyelet, at which point it is again dropped down to the bottom eyelet and trained across the frame to its companion

UNITED STATES PATENT OFFICE.

KENNETH HAWKINS, OF WATERTOWN, WISCONSIN, ASSIGNOR TO G. B. LEWIS COMPANY, OF WATERTOWN, WISCONSIN.

BROOD FRAME.

1,414,016.

Specification of Letters Patent. Patented Apr. 25, 1922.

Application filed February 10, 1921. Serial No. 443,921.

To all whom it may concern:

Be it known that I, KENNETH HAWKINS, a citizen of the United States, and resident of Watertown, in the county of Jefferson and State of Wisconsin, have invented certain new and useful Improvements in Brood Frames; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention refers to rectangular frames for the support of honey combs, particularly adapted for brood purposes, the frames being composed of wood strips, and the end strips of which are provided with aligned openings, adapted to receive a wire strand, which is alternately threaded through the two series of openings in a zig-zag course, under tension, for the support of the comb. In practice, it has been found that owing to the fact that the soft wood of the end bars, through which the openings are formed for the reception of the wires, will yield under tension of the wire and also under load of the comb, whereby the wires, thus cutting into the openings, will become loose and sag. Owing to this loosening of the tension of the wires, the honey combs, which are supported by them, will also sag and draw out of shape, whereby the distortion, due to sagging, will render the comb unfit for the rearing of a brood.

My invention therefore primarily comprises as a new article of manufacture a frame of the above character, having oppositely disposed companion sets of metallic eyelets extending through the end bars of the frame for the reception of the wire strand, whereby when the wire is put under tension, "a metal to metal contact" is effected throughout the entire fabricated structure to thus effectually prevent loosening of the wires through sagging, whereby the parts of the frame, as a whole, are maintained in their normal rigid relations to thus insure the desired results. It will also be observed that in the old style of frame where the wire strand under tension will cut into the wood, the loosened wires will thus lose their bracing effect of the entire structure, so as to cause it to quickly deteriorate under ordinary conditions.

Another object of my invention is to provide the end bars with axially aligned outer pairs of metallic eyelets and with the intermediate series of companion pairs slightly

offset from axial alignment, whereby the wire strand, when run through such eyelets in zig-zag formation, will assume parallel relations.

With the above and other minor objects in view, the invention consists in certain peculiarities of construction and combination of parts, as are hereinafter set forth with reference to the accompanying drawings and subsequently claimed:

In the drawings,

Figure 1 represents a side elevation of a rectangular wooden hive frame embodying the features of my invention, parts being broken away and in section to more clearly illustrate the structural features.

Figure 2 is an end view of the same, and Figure 3 is a detail magnified view of a pair of the intermediate metallic eyelets showing end relative positions, whereby strand of wire running through them will engage the upper wall of one eyelet and the lower wall of the other.

Referring by characters to the drawings, 1 1' represents longitudinal strips of a rectangular hive frame, the said strips being suitably connected by transverse wooden end strips 2 2'.

The end bars have fitted therethrough and upset, series of oppositely disposed metallic eyelets 3 3', each of said eyelets being formed with dished heads 4, as best shown in Figure 3, to thereby form a slight cushion or resiliency, it being understood that the mouth ends of the eyelets are curved so as to present a rounded surface. The bottom end top set of eyelets are positioned in axial alignment with each other, and the intermediate companion sets, as best illustrated in Figure 3, are disaligned slightly for the purpose to be hereinafter described. One end 5 of a wire strand 6 is secured to the outer face of the frame bar 2 and the wire is thereafter threaded through the first eyelet, and thence across the frame to its companion eyelet, from which point it is trained down to the intermediate eyelet, and from thence across the frame to the companion intermediate eyelet forming parallel stretches. The wire is then trained downwardly to the first intermediate eyelet of the second series, and from thence across the frame to its companion eyelet, at which point it is again dropped down to the bottom eyelet and trained across the frame to its companion