Nov. 21, 1950 H. BABCOCK, JR 2,530,801

VENTILATED, INSULATED COVER FOR BEEHIVES

Filed Dec. 14, 1948 2 Sheets-Sheet 1

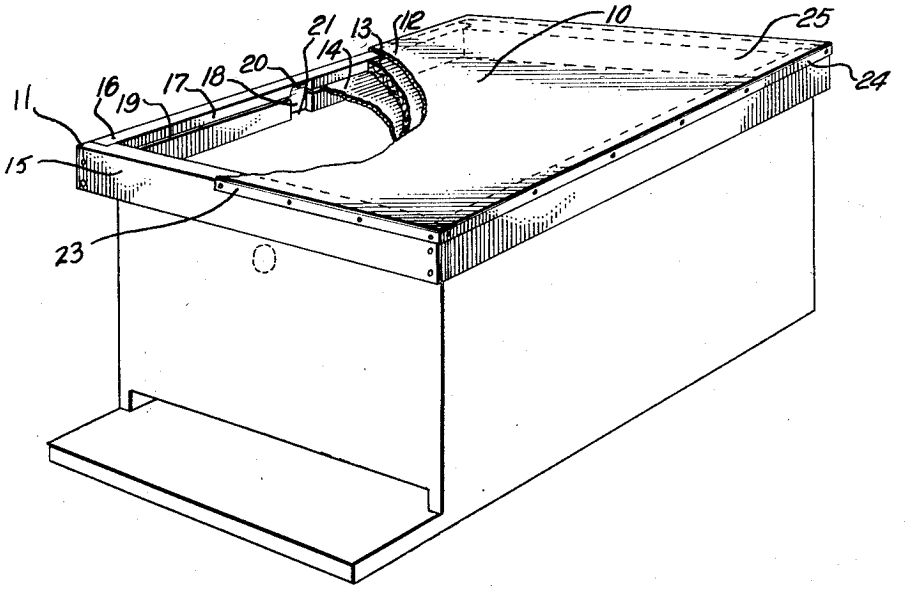

Fig. 1

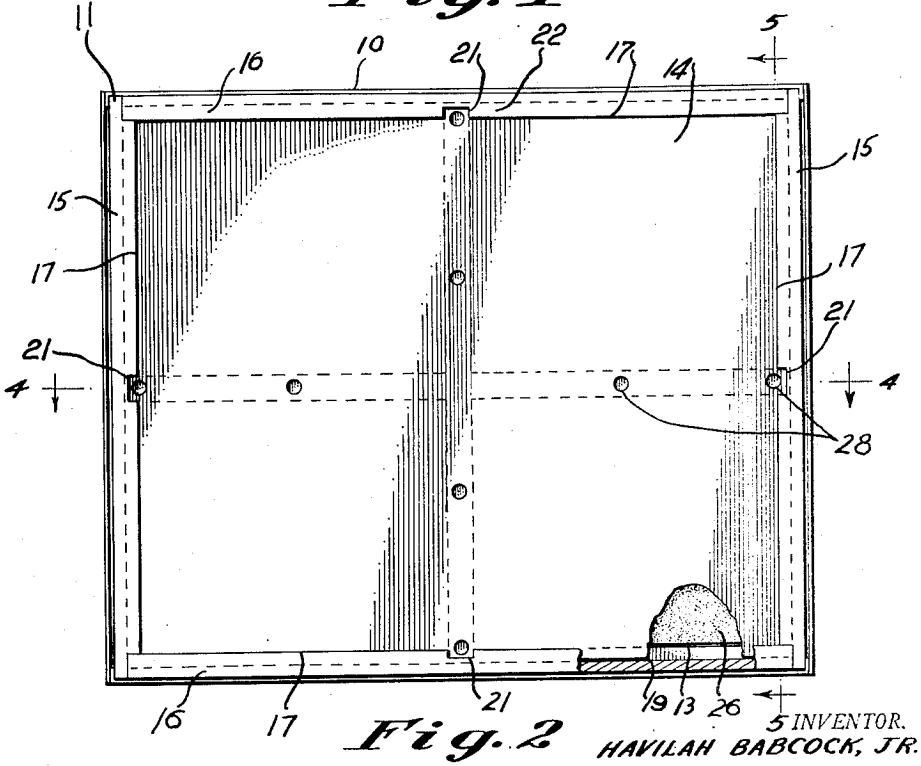

Fig. 2

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VENTILATED, INSULATED COVER FOR BEEHIVES

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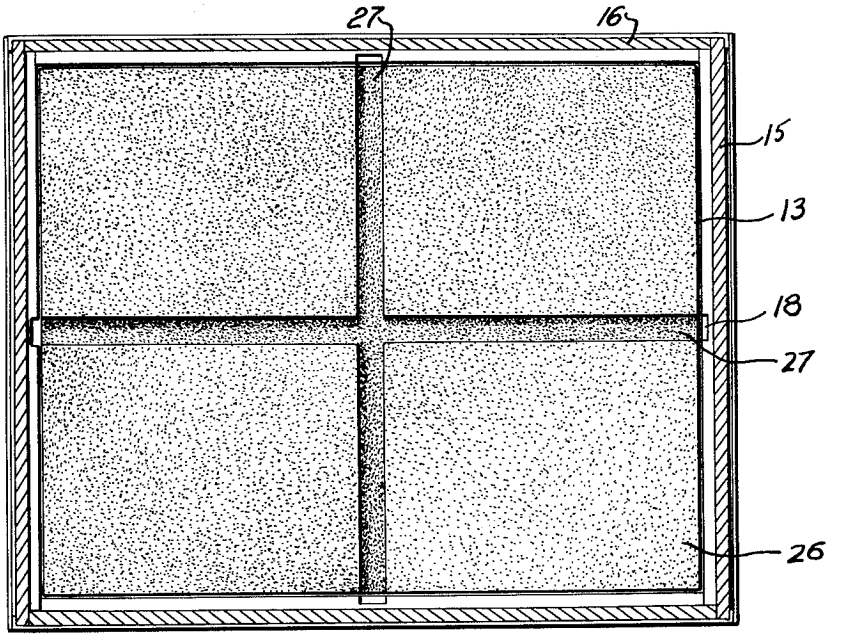

Fig. 3

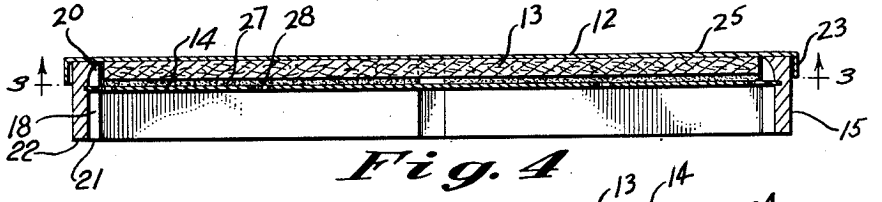

Fig. 4

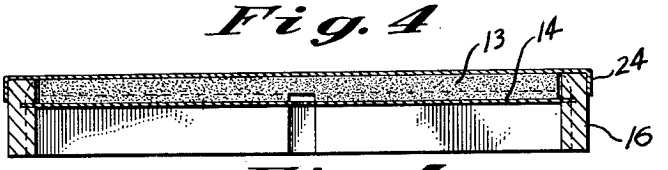

Fig. 5

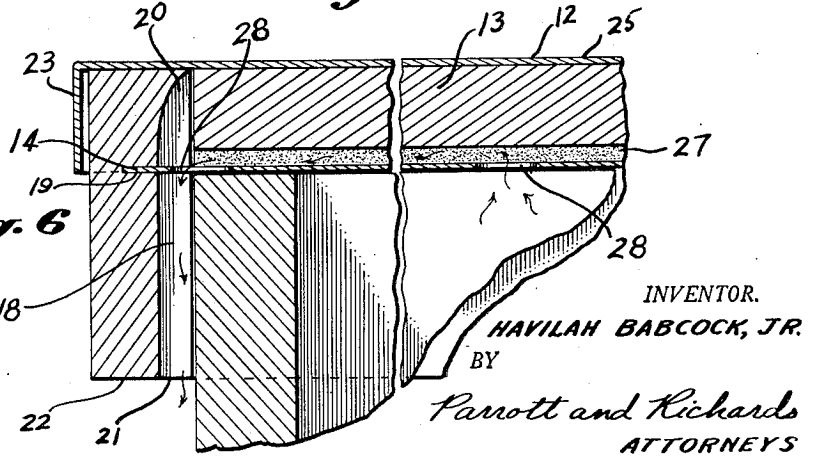

Fig. 6

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VENTILATED, INSULATED COVER FOR BEEHIVES

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Application December 14, 1948, Serial No. 65,223

6 Claims. (Cl. 6—1)

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This invention relates to beehives and more particularly to a ventilated, insulated cover for beehives.

It is well known that in order to maintain the health and productiveness of bees, the beehive should be warm in the winter, cool in the summer, and free of harmful moisture. As an aid in attaining these beneficial conditions, it is desirable to have a ventilated, insulated cover for the beehive.

The common commercial types of ventilated, insulated covers have a number of disadvantages which restrict or prevent the attainment of the objects for which they are constructed. One of these disadvantages is the arrangement of the interior of the cover in such a manner that the bees either partially or wholly prevent ventilation by covering the surfaces having the ventilating means with wax. Another disadvantage is the provision of exterior outlets in the cover which expose to some extent the beehive to driving and slanting wind, rain, sleet, and snow.

In accordance with my invention, I have provided a cover in which a non-sagging, rigid insulation board having ventilating channels is enclosed between two metal sheets. The inner metal sheet is perforated so that the warm moist air rising from the bodies of the bees may pass therethrough. The smooth surface of the inner metal sheet prevents the deposit of wax, thereby keeping the inlet ventilating openings free and eliminating one of the usual disadvantages found in other types of covers. The rigid insulation board and the enclosing metal sheets are mounted on an open frame having ventilating openings in the bottom of the frame, thus providing all-weather outlets.

In addition to overcoming the disadvantages found in the usual types of ventilated, insulated covers, one of the important features of my invention, not found in other types of covers, is the simplicity of construction which enables the cover to be shipped in knockdown form and to be assembled and disassembled with ease by the individual owners of the beehives using this type of cover. The simplicity of this knockdown construction results in economy of manufacture and in ease of replacement of damaged or worn out parts.

Any suitable lightweight, weather resistant metal may be used for the inner and outer metal sheets, such as aluminum or magnesium alloy. The rigid insulation board may be selected from a number of available materials, such as synthetic rubber, cork board or a rigid board made from bagasse.

Briefly described, my ventilated, insulated cover comprises an open frame having removably connected sections and downwardly extending passages providing openings to the atmosphere in the bottom of the frame, a metal top adapted for covering the frame, a rigid insulation board positioned as a lining for the metal top and being provided with horizontally disposed channels in communication with the downwardly extending passages of the frame, and a smooth metal sheet removably connected to the inner faces of the sections of the frame for retaining the rigid insulation board adjacent to the top and being provided with a plurality of perforations disposed in spaced relation to the channels of the rigid insulation board.

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The invention is described more in detail below in connection with the accompanying drawing, in which:

Fig. 1 is a perspective view partly in fragmentary cross-section of my ventilated, insulated cover in association with a beehive;

Fig. 2 is a bottom plan view of the cover partly in fragmentary cross-section;

Fig. 3 is a section taken substantially on line 3—3 of Fig. 4;

Fig. 4 is a vertical section taken substantially on line 4—4 of Fig. 2;

Fig. 5 is a vertical section taken substantially on line 5—5 of Fig. 2; and,

Fig. 6 is a fragmentary enlarged sectional detail corresponding to Fig. 4.

Referring at first to Fig. 1 of the drawing, the disposition of a ventilated, insulated cover 10 arranged in accordance with the present invention is shown in relation to the usual type of beehive. The cover 10 comprises an open frame 11, a metal top 12, a rigid insulation board 13, and a smoother inner metal sheet 14.

As shown in Figs. 1 and 2, the frame 11 is formed from end sections 15 and side sections 16 connected by a simple shouldered joint or by a mortise and tenon arrangement. The inner faces 17 of the end sections 15 and side sections 16 have downwardly extending passages 18 and a horizontally disposed groove 19. The downwardly extending passages 18 have tapered upper ends 20 and lower end outlets 21 opening to the atmosphere in the bottom 22 of the frame 11.

The metal top 12 has end portions 23 and side portions 24 bent at right angles to its main part 25 and is adapted to cover the open frame 11.

As shown in Fig. 3, the rigid insulation board 13 has in its underside 26 crosswise positioned channels 27 in communication with the downwardly extending passages 18 of the frame 11.

The inner metal sheet 14, as shown in Fig. 2, has a plurality of perforations 28 disposed in spaced relation to the channels 27 in the rigid insulation board 13. Figs. 4 and 5 illustrate the disposition of the metal sheet 14 in the horizontally disposed groove 19 of the frame 11 so that the rigid insulation board 13 is retained adjacent to the main part 25 of the metal top 12.

As shown in Fig. 6, the warm moist air that emanates from the bodies of the bees in the beehive rises through the perforations 28 in the metal sheet 14, passes along the channels 27 in the rigid insulation board 13, and circulates downwardly through the downwardly extending passages 18 and outlet openings 21 in the bottom 22 of the frame 11 into the atmosphere.

It is to be understood that the form of my invention, herewith shown and described, is a commercially advantageous example of the same, and that various changes in the shape, size and arrangement of parts may be resorted to, without departing from the spirit of my invention.

I claim:

1. A ventilated, insulated cover for a beehive comprising a metal covered frame adapted for snugly enclosing the upper part of the beehive, said frame having downwardly extending passages terminating in exterior openings; insulating means adapted as a lining for the top of the frame and being provided with horizontally extending grooves in communication with the downwardly extending passages of the frame; and a smooth substantially solid metal sheet connected to the frame and positioned for retaining the insulating means adjacent to the top of the frame, said smooth metal sheet being provided with a plurality of perforations disposed in spaced relation to the grooves in the insulating means, whereby the warm moist air that rises in the beehive may pass through the perforations in the metal sheet, along the grooves in the insulating means, and through the passages and openings of the frame into the atmosphere.

2. A ventilated, insulated cover for a beehive comprising a metal covered frame adapted for snugly enclosing the upper part of the beehive, said frame being provided with downwardly extending passages having their lower ends terminating in openings to the atmosphere in the bottom of the frame; a rigid insulation board adapted to fit snugly within the frame as a lining for the top of the frame, said rigid insulation board being provided with horizontally disposed channels in communication with the downwardly extending passages of the frame; and a smooth metal sheet connected to the frame and positioned for retaining the rigid insulation board adjacent to the top of the frame, said smooth metal sheet being provided with a plurality of perforations disposed in spaced relation to the channels in the rigid insulation board, whereby the warm moist air that rises in the beehive may pass through the perforations in the metal sheet, along the channels in the rigid insulation board, and through the passages and openings of the frame into the atmosphere.

3. A ventilated, insulated cover for a beehive comprising an open frame, an outer metal sheet, a rigid insulation board, and an inner metal sheet; said frame being provided with downwardly extending passages having exterior openings; said outer metal sheet being adapted to cover the frame; said rigid insulation board being removably arranged in the frame in contact with the surfaces of the outer and inner metal sheets and being provided with horizontally extending grooves in communication with the downwardly extending passages of the frame; and said inner metal sheet being removably connected to the frame and being provided with perforations in spaced relation to the grooves in the rigid insulation board, whereby the warm moist air that rises in the beehive may pass through the perforations

in the inner metal sheet, along the grooves in the rigid insulation board, and through the passages and openings of the frame into the atmosphere.

4. A ventilated, insulated cover for a beehive comprising an open frame, an outer metal sheet, a rigid insulation board, and an inner metal sheet; said frame being provided with downwardly extending passages having openings to the atmosphere in the bottom of the frame; said outer metal sheet being adapted to cover the frame; said rigid insulation board being removably arranged in the frame, being sandwiched between the outer and inner metal sheets and being provided in its underside with crosswise positioned channels in communication with the downwardly extending passages of the frame; and said inner metal sheet being removably connected to the frame and being provided with perforations in spaced relation to the channels in the rigid insulation board, whereby the warm moist air that rises in the beehive may pass through the perforations in the inner metal sheet, along the channels in the rigid insulation board, and through the passages and openings of the frame into the atmosphere.

5. A ventilated, insulated cover for a beehive comprising an open frame adapted for snugly enclosing the upper part of the beehive, said frame having removably connected side and end sections, the inner faces of the sections being provided with downwardly extending passages having their lower ends terminating in openings to the atmosphere in the bottom of the frame; a metal top adapted for covering the frame; a rigid insulation board adapted to fit snugly within the frame as a lining for the top, said rigid insulation board being provided in its underside with horizontally disposed channels in communication with the downwardly extending passages in the side and end sections of the frame; and a smooth metal sheet removably connected to the frame and positioned for retaining the rigid insulation board adjacent to the top, said smooth metal sheet being provided with a plurality of perforations disposed in spaced relation to the channels in the underside of the rigid insulation board, whereby the warm moist air that rises in the beehive may pass through the perforations in the metal sheet, along the channels in the rigid insulation board, and through the passages and openings of the frame into the atmosphere.

6. A ventilated, insulated cover for a beehive comprising an open frame adapted for snugly enclosing the upper part of the beehive, said frame having removably connected side and end sections, the inner faces of the sections being provided with downwardly extending passages and a horizontally disposed groove, said passages having their upper ends tapered and their lower ends terminating in openings to the atmosphere in the bottom of the frame; a top formed from a rectangular metal blank, said top having end and side portions bent at right angles to the main part of the blank and being adapted for covering the frame; a rigid insulation board adapted to fit snugly within the frame as a lining for the top, said rigid insulation board being provided in its underside with crosswise positioned channels in communication with the downwardly extending passages in the side and end sections of the frame; and a smooth metal sheet positioned in the horizontally disposed groove in the side and end sections of the frame for retaining the rigid insulation board adjacent to the top, said smooth metal sheet being provided with a plu-

rality of perforations disposed in spaced relation to the channels in the underside of the rigid insulation board, whereby the warm moist air that rises in the beehive may pass through the perforations in the metal sheet, along the channels in the rigid insulation board, and through the passages and openings of the frame into the atmosphere.

HAVILAH BABCOCK, JR.

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