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2,498,880

BEEHIVE COVER

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Fig. 1.

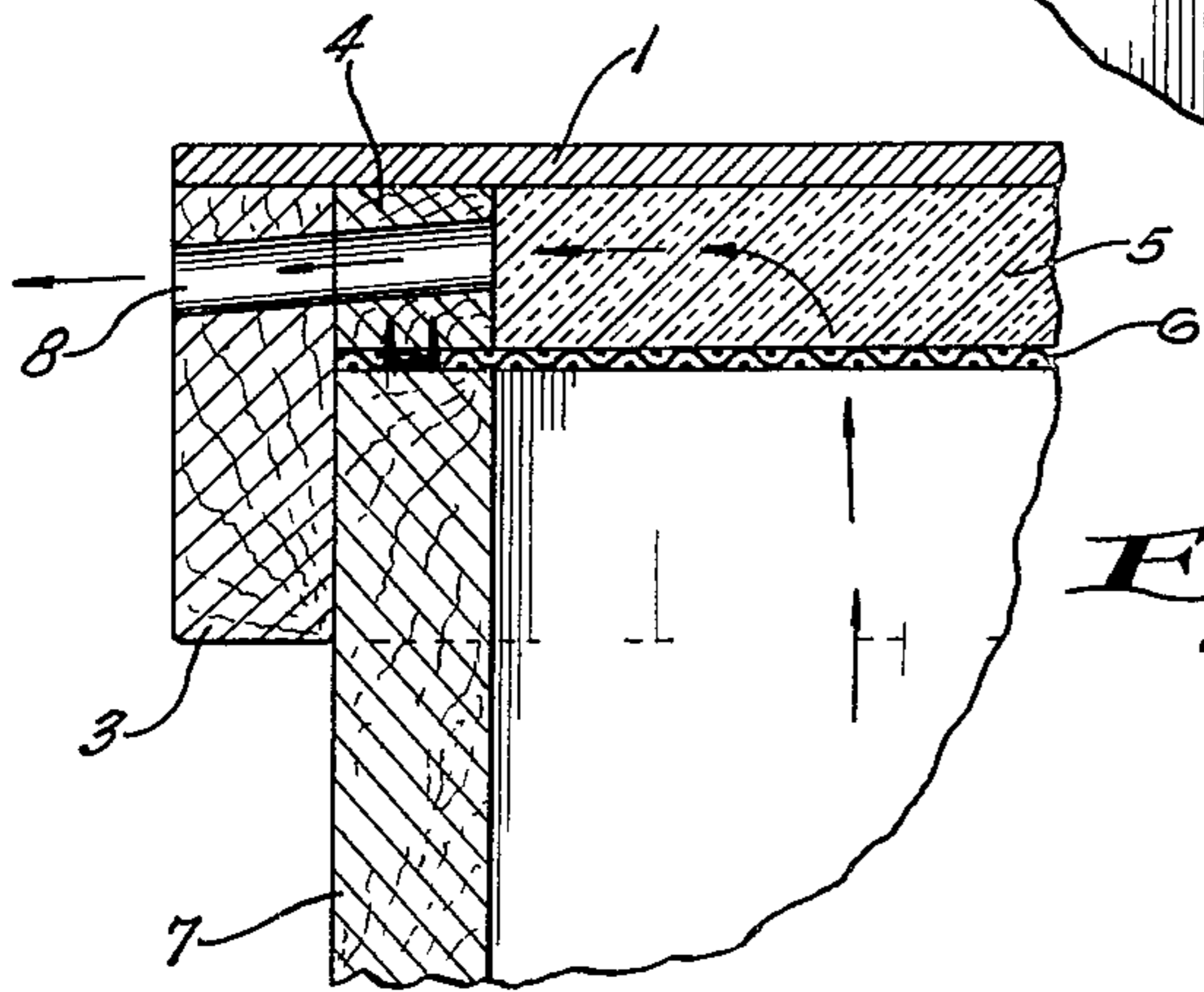
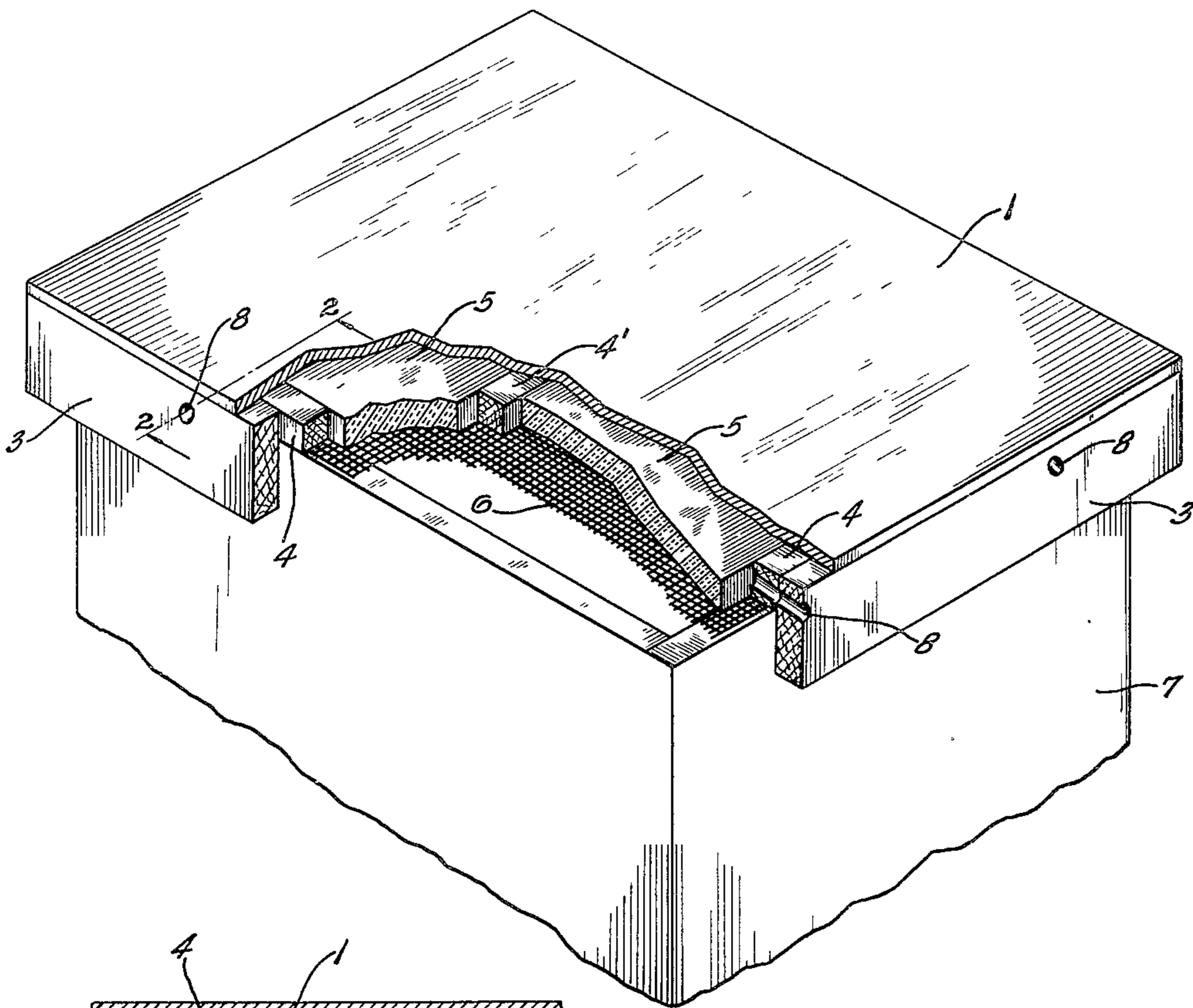


Fig. 2.

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BEEHIVE COVER

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3 Claims. (Cl. 6—1)

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This invention relates to improvements in beehive covers.

A beehive cover as commonly constructed provides a waterproof covering which fits closely over the hive body but fails to allow for proper circulation of air within the hive.

In the winter months the bees form a cluster of considerable size within the hive. This packed mass radiates a substantial amount of heat and keeps the temperature within the hive well above that of the outside air. The heated air within the hive naturally rises and is trapped within the upper part of the hive. As a result of low outside temperatures, moisture carried by this warm air is condensed upon coming into contact with the lower side of the cover. The collection of this moisture is very detrimental to the well-being of the bees, and causes a disease known as nosema.

As a result of my experiments it has been found that by furnishing a novel type of ventilation in the hive cover, preferably in conjunction with insulation arranged in a special manner, the undesirable collection of moisture may be eliminated. This ventilation must not, however, be such as will materially reduce the temperature within the hive, or allow any rain or melted snow to enter.

It is, therefore, a general object of this invention to provide an improved hive cover assembly which, without materially lowering the temperature within the hive, allows sufficient ventilation to prevent condensation and collection of moisture on the underside of said cover during the winter months, and thereby provides a dry hive which is so essential to the well-being of the bees.

A further object of the invention is to provide a ventilated hive cover assembly which is so constructed that it can be used the year around, requiring no additional insulation or "packing" for the winter months.

A further object of the invention is to provide a ventilated hive cover assembly which is simple and inexpensive in construction, which will increase the well being, and as an indirect result the productivity of the bees, and which is otherwise well adapted for the purpose described.

With the above and other objects in view, the invention consists of the improved beehive cover, and all its parts and combinations, as set forth in the claims, and all equivalents thereof.

In the accompanying drawing, illustrating one complete embodiment of the preferred form of the invention, in which the same reference numerals designate the same parts in both of the views:

Fig. 1 is a fragmentary perspective view show-

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ing a hive with the cover in place, a portion of the cover being broken away to show in cross-section the relationship between the various component parts; and

Fig. 2 is an enlarged vertical cross-sectional view taken through a part of the hive along the line 2—2 of Fig. 1.

Referring more particularly to the preferred embodiment of the drawing, the hive cover assembly comprises a top panel 1 of metal or any suitable waterproof material, wooden side flanges 3, an internal wooden spacing frame 4, having an intermediate transverse brace 4', a suitable porous, non-absorbent material 5 such as the insulation known as "Fiberglas," and a screen 6 or other suitable means for supporting the porous material 5. The edges of the screen may be secured in any suitable manner, such as by staples, to the lower side of the spacing frame 4 and to the lower side of the brace 4'.

The side flanges 3 and the members forming the spacing frame 4 may be secured to the cover panel 1 in any desired manner, the side flanges being so positioned that they fit telescopically down over the sides of the hive body 7, said body being of standard size. The spacing frame 4 is of such dimensions as to seat upon the upper edges of the hive body 7 when the cover is in place. It thereby supports the weight of the cover and allows the porous non-absorbent material 5 to be free from any compressive force. The screen 6 has dimensions approximately equal to those of the top of the hive body as shown. Holes 8, forming ventilation ducts are drilled through the side flanges 3 and through the spacing frame 4 in such a manner that the inner ends of the holes meet the edges of the porous material 5. Thus, the inner ends of the holes are blocked to prevent the entrance of the bees. The holes 8 are drilled at a slight angle from the horizontal so as to be inclined downwardly and outwardly from the inner ends thereof.

The openings are of a size and number sufficient to provide for the desired amount of ventilation. In the preferred embodiment, there are two holes in each side of the cover. The holes are drilled at the described inclination to prevent the entry therein of any water, whether from rain, melting snow, or any other source.

With the present invention in use during the winter time fresh air enters at the bottom of the hive and is heated by the heat radiated from the cluster of bees therein. The heated air naturally rises.

As the heated air rises, it passes upwardly

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through the screen 6, into the porous material 5, and then laterally through the porous material to the holes 8 through which it escapes to the outside. In addition to furnishing a medium for blocking the inner ends of the holes to prevent use by the bees while permitting the heated air to travel therethrough, the porous material also acts as an insulating agent between the mass of warm air within the hive and the lower surface of the panel 1.

The natural ventilation system furnished by this invention provides for the carrying away of the warm moisture laden air within the hive, in combination with sufficient insulation on the underside of the cover to prevent the condensation of any moisture thereon. It will be noted that while this invention provides for the discharge of a sufficient amount of moisture laden air from within the hive to prevent condensation, there is not such a frequent or complete change of air within the hive as would reduce the temperature therein to an undesirable level.

It will also be noted that this invention is such that it provides no direct openings from the inside of the hive to the outside through which the bees might attempt to travel or which the bees might fill with wax or other material to defeat the purpose of the present invention.

It is apparent from the above that the beehive cover, while departing materially from recognized methods of cover construction, is a marked improvement and provides a dry hive throughout the winter months, thus preventing the occurrence of the disease nosema. By improving the health of the bees their productivity is obviously increased.

Various changes and modifications may be made without departing from the spirit of the invention, and all of such changes are contemplated as may come within the scope of the claims.

What I claim is:

1. A ventilating cover for beehives having side walls comprising a waterproof top panel having side flanges, a spacing frame secured adjacent the inner surface of said top panel and against said flanges and adapted to seat on the upper edges of said hive side walls to form a top panel space above the upper edges of said side walls, there being ventilating holes extending transversely through said flanges and spacing frame, and a non-absorbent porous insulating material in said top panel space and on the inner side of the top panel, said material having its edges meeting said spacing frame to block the inner ends of said ventilating holes against use by the bees while permitting the circulation of air from the interior of the hive into said porous insulating material and out through said holes.

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2. A ventilating cover for beehives having side walls comprising a waterproof top panel having side flanges, a spacing frame secured adjacent the inner surface of said top panel and against said flanges and adapted to seat on the upper edges of said hive side walls to form a top panel space above the upper edges of said side walls, there being ventilating holes extending transversely through said flanges and spacing frame, a non-absorbent porous insulating material in said top panel space and on the inner side of the top panel, said material having its edges meeting said spacing frame to block the inner ends of said ventilating holes against use by the bees while permitting circulation of air from the interior of the hive into said porous insulating material and out through said holes, and a screen adjacent the inner side of said insulating material for maintaining the latter in position against the inner side of said top panel.

3. A ventilating cover for beehives having side walls comprising a waterproof top panel having side flanges, a spacing frame secured adjacent the inner surface of said top panel and against said flanges and adapted to seat on the upper edges of said hive side walls to form a top panel space above the upper edges of said side walls, there being ventilating holes extending transversely through said flanges and spacing frame, a non-absorbent porous insulating material in said top panel space and on the inner side of the top panel, said material having its edges meeting said spacing frame to block the inner ends of said ventilating holes against use by the bees while permitting circulation of air from the interior of the hive into said porous insulating material and out through said holes, and a screen adjacent the inner side of said insulating material for maintaining the latter in position against the inner side of said top panel, the edges of said screen being secured to said spacing frame.

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