

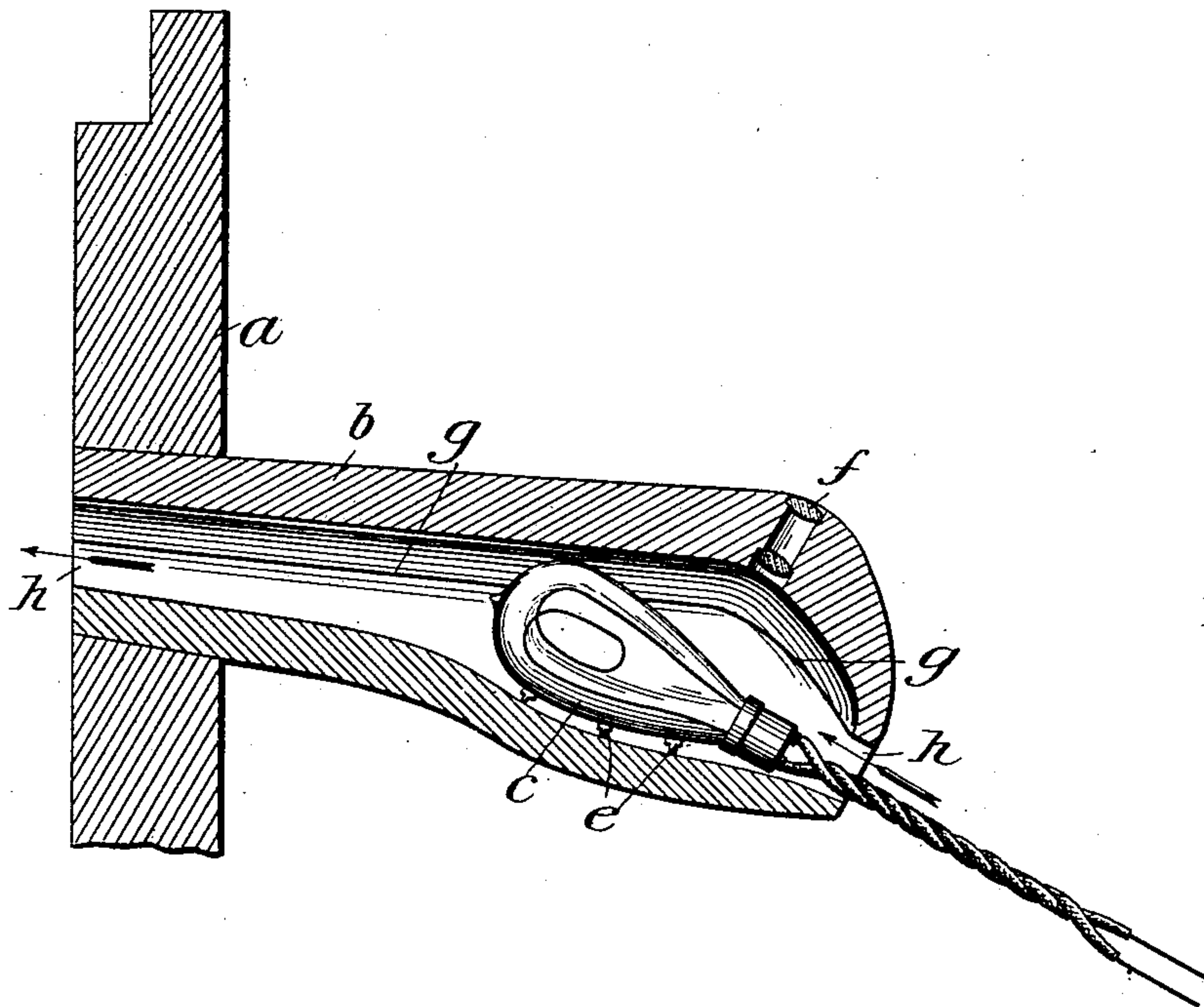
No. 702,833.

Patented June 17, 1902.

H. VOGELER.  
ELECTRIC BEEHIVE HEATER.

(Application filed Mar. 18, 1902.)

(No Model.)



Witnesses:

Paul J. Koch.  
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# UNITED STATES PATENT OFFICE.

HENRY VOGELER, OF NEWCASTLE, CALIFORNIA.

## ELECTRIC BEEHIVE-HEATER.

SPECIFICATION forming part of Letters Patent No. 702,833, dated June 17, 1902.

Application filed March 18, 1902. Serial No. 98,857. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY VOGELER, a citizen of the United States, residing in the town of Newcastle, county of Placer, and State of California, have invented a new and useful Electric Beehive-Heater, of which the following is a specification.

My invention relates to improvements in beehive-heaters wherein electricity is used to generate heat to warm and dry the inside of a beehive and preserve colonies of bees during very cold weather. I attain these objects by the construction, arrangement, and combination of parts shown in accompanying drawing, which represents a sectional view of my heating attachment.

*a* indicates a portion of the front of a beehive, *b* a tube attached thereto, and *c* a heater in the form of an incandescent electric lamp. The said tube *b* is inserted and held in a hole bored in the hive-front *a*, the location being preferably the lower portion of the brood-chamber at one side of the bee-entrance. The tube projects from the front *a* and is inclined downward to adapt it to carry off moisture and also to facilitate the inward flow of air heated by the lamp *c*. The cavity of the tube *b* is shown enlarged near its outer end to provide due space for the lamp *c*, which lies upon its side, the conductors passing through the mouth or entrance *h* of the tube, as shown. The lamp being of greater diameter than the passage at either end it cannot be detached by accident. Supports *e* are provided on the floor of the tube to hold the lamp *c* in such position that air may pass freely in contact with its under side. An inspection-opening is provided at *f* in the upper side of the tube directly over the lamp *c* and closed by glass disks to prevent escape of heated air. The tube *b* is shown divided longitudinally at *g*, and thus into two parts, which are held together by compression of their inner ends in the hole bored in the hive *a*; but I propose to provide for insertion and removal of the lamp *c* in any other manner that judgment may suggest. It is apparent that the electric current being turned on the heat radiated from the lamp-filament will heat the surrounding

air, which will tend to flow upward, and thus into the hives, as indicated by arrows, where it warms the interior. I propose to vary the degree of heat by the size or power of the lamp *c*, the latter being adapted to be readily removed to allow substitution of another.

When the heating attachment is not required for use, the tube *b* is removed and the hole in the hive *a* is plugged.

What I claim is—

1. The combination, with a beehive, of an exterior, detachable, air-heating attachment comprising an open-end tube which is held in a bore in the hive and projects therefrom, and a heating medium, contained within the tube, and means for heating the air passing through the tube into the hive as described.

2. The combination with a beehive of an air-heating attachment comprising an open-end tube held in an opening in the hive-wall, an incandescent electric lamp, supported within said tube, and having conductors extended out of the same, as shown and described.

3. The combination with a beehive of an air-heating attachment consisting of an open-end tube which is held in an opening in the hive-wall, and inclined downward therefrom, and a lamp contained and duly supported in the tube, as shown and described.

4. The air-heating attachment for a beehive, consisting of an open-end tube and an incandescent electric lamp secured within the tube, as shown and described.

5. The combination with a beehive of an air-heating attachment comprising an open-end tube made in two longitudinal parts adapted to be easily separated, and a lamp contained in an enlargement of the passage in said tube and having greater diameter than the opening at either end of the tube, as shown and described.

6. The combination with a beehive of the air-heating attachment comprising an open-end tube having its passage provided with support for a lamp whereby the latter is held out of contact with the bottom of the same, as shown and described.

7. The combination with a beehive of the



air-heating attachment comprising a lamp  
and a tube which is open at each end and pro-  
vided with an inspection-opening at the point  
where the lamp is located, said opening being  
5 closed to passage of air by a transparent me-  
dium, as shown and described.

In testimony whereof I have signed my

name to this specification in the presence of  
two subscribing witnesses.

HENRY VOGELER.

Witnesses:

CELESTIA M. DE LA MATER,  
WILLARD OLIVER HOLMES.