No. 883,343. PATENTED MAR. 31, 1908.

H. J. PORTER.

BEE KEEPER'S KNIFE.

APPLICATION FILED JUNE 13, 1907.

FIG. 2

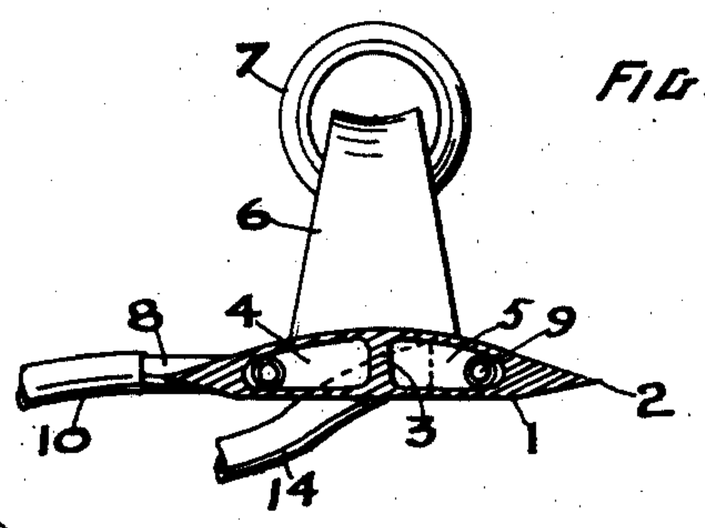

FIG. 1

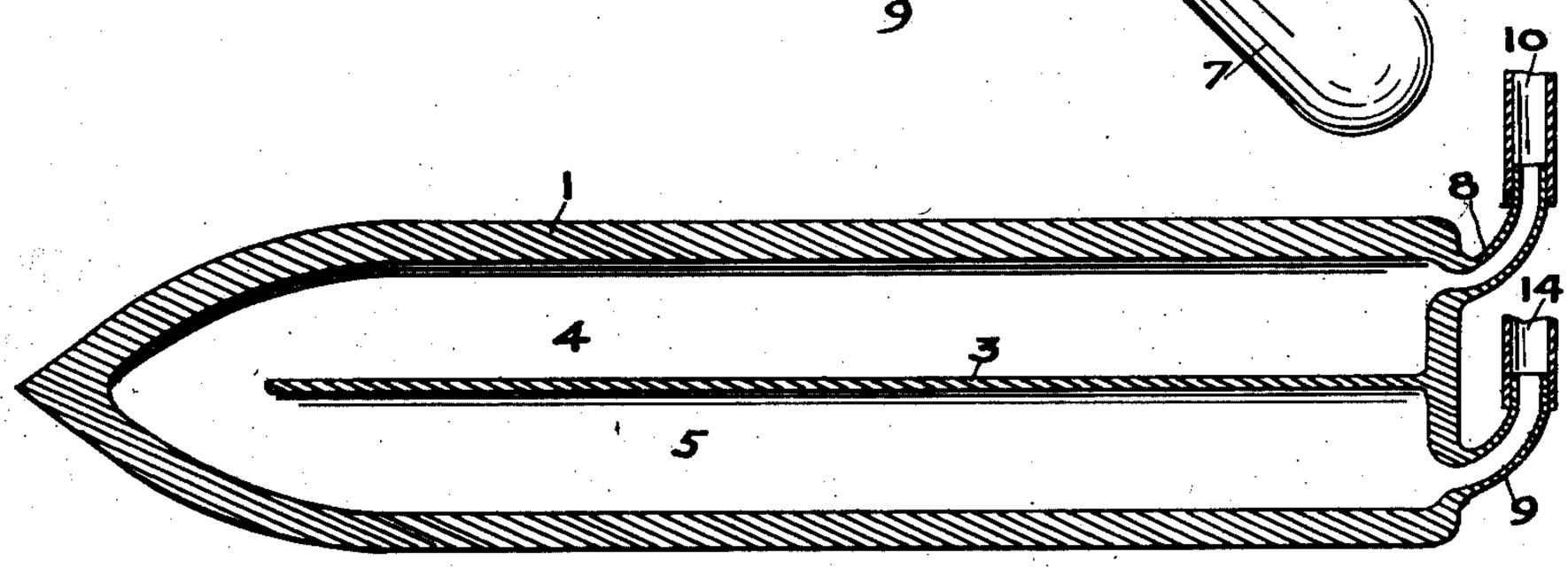

FIG. 3

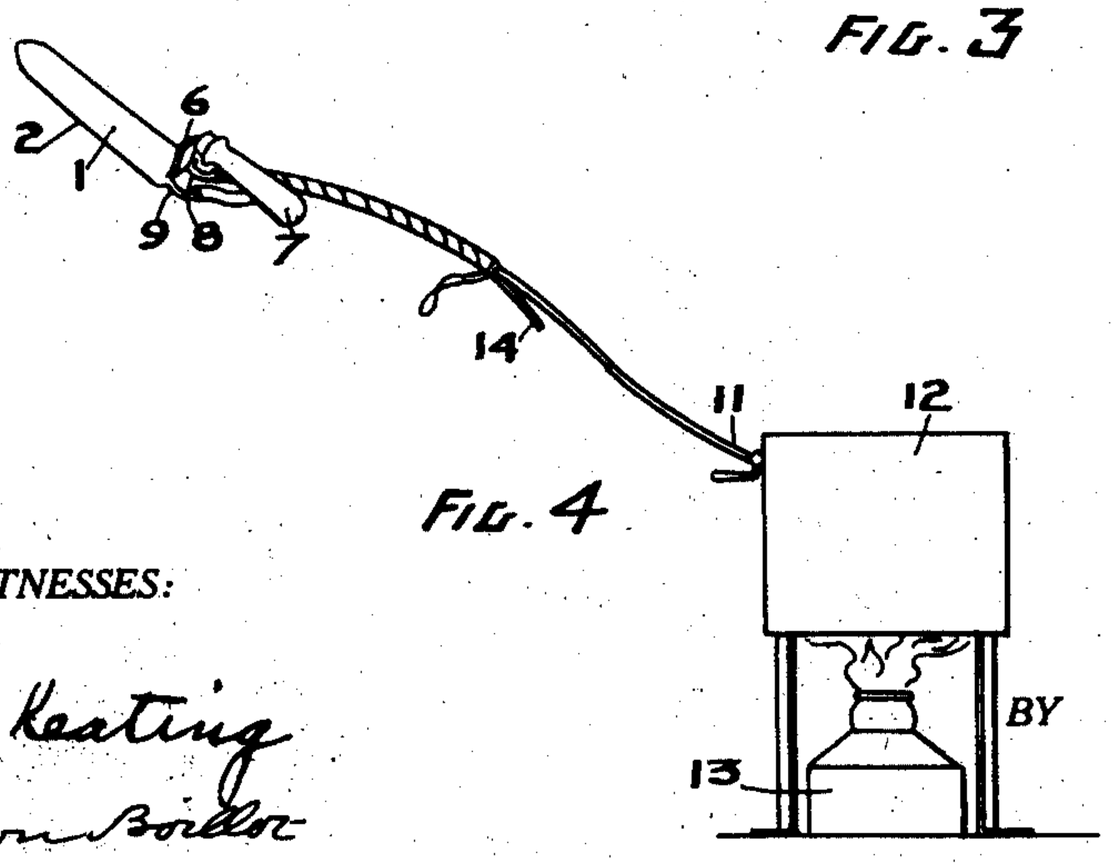

FIG. 4

WITNESSES:

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HENRY J. PORTER, OF SAN LUIS OBISPO, CALIFORNIA.

BEE-KEEPER'S KNIFE.

No. 883,343. Specification of Letters Patent. Patented March 31, 1908.

Application filed June 13, 1907. Serial No. 378,752.

To all whom it may concern:

Be it known that I, HENRY J. PORTER, a citizen of the United States, residing at San Luis Obispo, in the county of San Luis Obispo and State of California, have invented new and useful Improvements in Bee-Keepers' Knives, of which the following is a specification.

The object of the present invention is to provide a knife for the use of bee-keepers, which will facilitate the removal of the wax cappings from the honey combs. In so removing this capping it is necessary that the knife with which the capping is cut should be kept hot, and it is the common practice of bee-keepers at the present time to heat the knife by dipping it at frequent intervals in a pan of hot or boiling water. But this method is slow and requires skill and long experience to successfully practice it, as the knife quickly becomes cold and requires to be reheated one or more times in cutting off a single capping.

The present invention provides a knife by means of which the cappings can be removed rapidly and in a single operation for each capping, even by an inexperienced person.

In the accompanying drawing, Figure 1 is a perspective view of my improved knife; Fig. 2 is a horizontal section of the blade thereof; Fig. 3 is a cross section of the same; Fig. 4 is a perspective view showing the knife in use.

Referring to the drawing, 1 indicates the blade of the knife, which is hollow, as shown, the under surface thereof being comparatively flat, and the upper surface being curved, and forming with the lower surface two sharp edges 2. The interior of said blade is divided by a longitudinal central partition 3 extending from the base of the blade to near the point thereof, thus forming two chambers 4, 5, connected with each other only near the point. Said blade has a lateral extension 6 which is connected with a handle 7 after the manner of a trowel handle. With the chambers in the hollow blade are connected at the base two short pipes 8, 9, each pipe being curved through a right angle in the direction to the right or downwards in the position in which the blade is generally held. The left or higher side of the blade is the one generally used in cutting the stroke being made upward, the other side of the blade being occasionally used in making a downward stroke. With the pipe 8 connected with the upper chamber 4 of the blade is connected the end of the rubber tube 10, which at its other end is connected with a short pipe 11 leading from a boiler 12 containing water and adapted to be heated by any suitable burner, shown at 13. In said boiler, steam is generated, which passes by means of the flexible tube 10 to the upper chamber 4 of the blade, then passing to the pointed end thereof, and then around the end of the partition 3 to the lower chamber 5. The exhaust steam then escapes by the pipe 9 into a flexible exhaust tube 14, which extends to a suitable distance to exhaust the steam without danger of burning the hand of the operator.

The method of using the invention will be readily understood from the foregoing description. By means of the steam from the boiler the blade is maintained at a temperature amply sufficient to cut the wax capping, and as this temperature is uniform the operation of cutting can be carried on rapidly and continuously without the necessity of reheating, and, moreover, the cut thus made is much cleaner than when the knife is insufficiently or irregularly heated. In the latter case the result is that, on account of the upper edges of the cell walls of the comb being distorted, the honey does not flow readily therefrom. When a clean cut is made, leaving said edges in their natural shape, the honey can readily escape from the cells.

I claim;—

1. A bee-keeper's knife comprising a hollow blade having a sharp edge, a handle attached to said blade and a flexible tube attached to said blade and adapted to convey a heated fluid thereto, substantially as described.

2. A bee-keeper's knife comprising a hollow blade having a sharp edge, a handle attached to said blade and flexible tubes attached to said blade and adapted to convey a heated fluid to and from the blade, substantially as described.

3. A bee-keeper's knife comprising a hollow blade having a sharp edge, and having a longitudinal partition dividing the blade into chambers, a handle attached to said blade and a flexible tube attached to said blade and adapted to convey a heated fluid thereto, substantially as described.

4. A bee-keeper's knife comprising a hol-

low blade having a sharp edge, a handle attached to said blade out of the plane of the blade, and a flexible tube connected with the interior of the blade and adapted to convey a heated fluid thereto, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

HENRY J. PORTER.

Witnesses:
C. L. HOWE,
D. B. RICHARDS,