2 Sheets--Sheet 1.

J. SEARLE.

Bee Hive.

No. 580. Patented Jan'y 20, 1838.

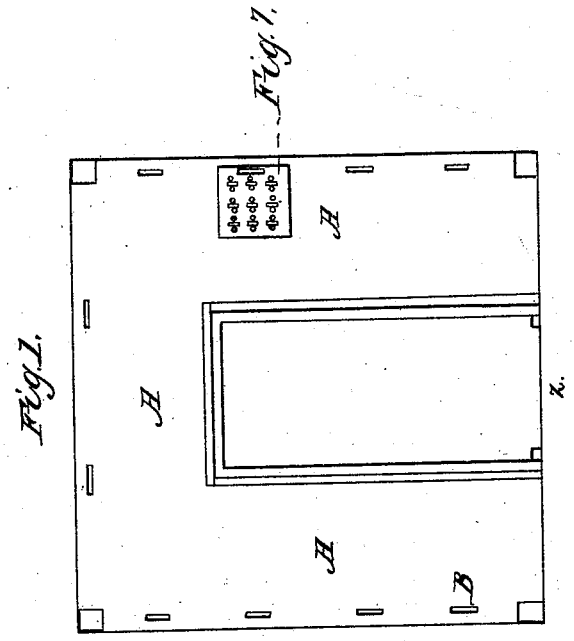

Fig. 1.

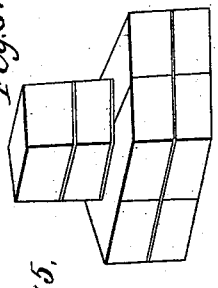

Fig. 6.

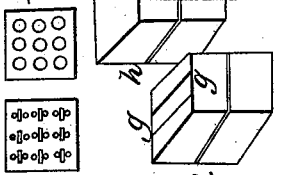

Fig. 5,

Fig. 4.

Fig. 3,

Fig. 2.

2 Sheets—Sheet 2.

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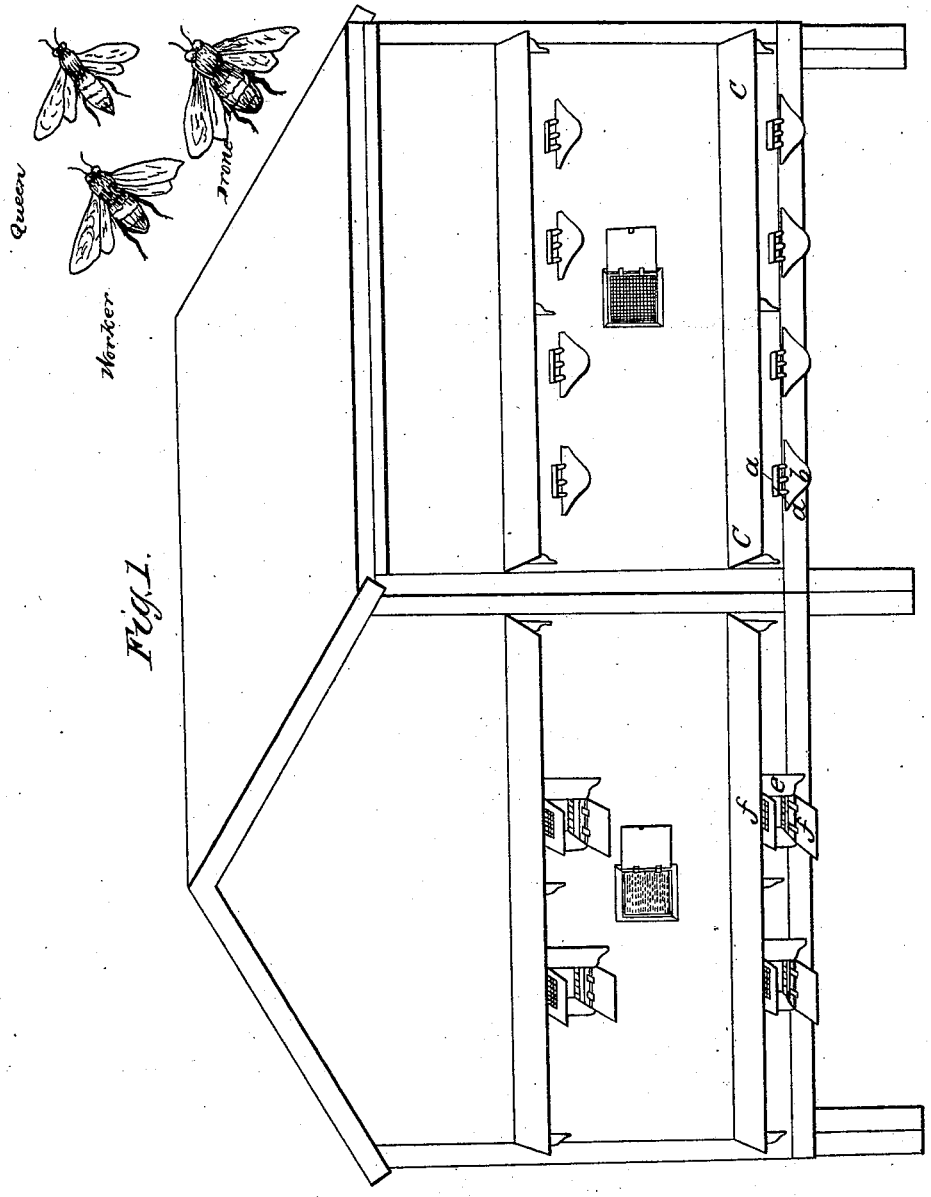

Fig. 1.

UNITED STATES PATENT OFFICE.

JOHN SEARLE, OF FRANKLIN, NEW HAMPSHIRE.

CONSTRUCTION OF BEE-HOUSES AND BEEHIVES AND THE MANAGEMENT THEREOF.

Specification of Letters Patent No. 580, dated January 20, 1838.

To all whom it may concern:

Be it known that I, JOHN SEARLE, of Franklin, in the county of Merrimack and State of New Hampshire, have invented a new and Improved Mode of Constructing Bee-Houses and Beehives and the Management Thereof, of which I do declare that the following is a full and exact description and to enable others skilled in the art to make and use my invention I will proceed to give a detailed description of the several parts and the necessary results of the same when combined.

I construct a building as follows, to wit—ten feet square or of any required dimension, to stand on posts two feet above the ground, two stories high, 4 feet each, with tight roof-frame without studs or braces—boarded perpendicularly, and plastered outside and in to exclude insects, and regulate the temperature, another covering of wood may be added—the floor to be double, with a coat of lime mortar between—a floor of cement, tin, or other smooth metal A, A, A, Plate 2, Figure 1, to be laid adjoining the walls, (except at one end where is to be a door, Z, for the convenience of the proprietor) for hives to be set on, 2½ feet wide for single ones, and three and half feet for double ones, or it may be of wood covered with a whitewash of salt, quick lime, and sand, over this at the distance of 4 feet is to be a scaffold of similar width and materials, for another tier of hives.

Instead of the above described house, a garret or an apartment in some other building may be used. The bees are to pass to and from the hive through a spout, about ten inches long, of 1¼ inch stuff, six inches wide, grooves out two inches wide and 3⅛ inches deep, in two places, leaving a margin ½ inch wide in the center, to support the cover, which is to be made of the same width. This spout is to pass from the hive through the walls of the building, sloping at an angle of twenty-two degrees, until it projects one inch, *a*, Plate 1, Fig. 1, and rests on the lighting stool, *b*, which must be equally sloping, and into which the spout must be sunk to the top of its floor; except the cement or metallic one, to the lower surface of which it must be fitted three inches from the inside of the walls, at which place a perpendicular mortise must be made. B, Plate 2, Fig 1, through the cement floor, four and half inches long, crosswise of the spout, and one inch wide. The angle or space remaining in the grooves of the spout beyond or above the mortise should be filled. Every part of the spout before it is put together is to be washed with the above mentioned whitewash; it must be well fitted into the walls and set in mortar. The spout may be made of composition, one foot above the lighting stool is to be a board, C, C, one foot wide, sloping twenty two degrees, intended to shelter the bees. Once in ten feet along the lower story is to be a ventilator, *d* secured on the outside by a shutter, and on the inside by a screen of wire, or perforated thin metal, fine enough to exclude the bee-moth. When it is intended to multiply artificial swarms, a kind of balcony or frame, *e*, one foot square, should be attached at the lower extremity of the spout, projecting four inches, secured on the outside by two shutters, *f*, *f*, the lower one to be hung at the bottom with hinges, so as to serve when open for a lighting stool—the upper one to be hung at the top on pivots, the upper edge being rounded and fitted to roll in a half circle, made in the frame, in the center of the upper shutter is to be a screen, *f*, inserted of half its size to serve as a ventilator, the upper shutter to close upon the lower one by a rabbet. In case the walls should be of brick, or sufficiently thick, the frame should be sunk rather than projected, and in either case the spout should extend no further than the inside of the frame. These shutters are useful for the greater security of the bees, when they are not sufficiently numerous to keep guard to the end of the spout, consequently they should be kept closed at night, during the season of the moths depredation. In case of multiplying the bees should pass and repass through the same spout, which should consequently be proportionably larger. The hives should be about sixteen inches square, and of any required height, without doors, or mouths, as they set on the board. Plate 3, Fig. 9, which is to be made precisely the same as the cover to the top of the hive, and should be washed with the above named whitewash, with the addition of a mortise corresponding with the mortise in the cement floor two inches from the walls, Plate 2, Fig. 7, for the convenience of securing them at the bottom with plaster lime.

The top of the hive should be provided with two parallel bars, *g*, *g*, Plate 2, Fig. 2,

one inch square, placed one and half inches from the center, for the purpose of supporting the cover, Plate 2, Fig. 3, which is to be made of a board one fourth of an inch in thickness, thirteen inches of the center is to be divided into nine equal squares, with a mortise in the center of each, two and half inches long, and three fourths wide, opposite the center of each mortise at the distance of one fourth of an inch from each side, is to be a hole three fourths of an inch in diameter. Over this is to be placed an adapter, Plate 2, Fig. 4, three fourths of an inch thick, with holes two and seven eighths inches in diameter, corresponding with the holes in the cover—in the holes of the adapter are to be inserted the mouths of glass quart special jars, to be covered with a suitable box or cover to exclude the light, while the bees are at work in them. At the approach of cold weather the bottles should be removed, to prevent the rarefied air from condensing, and destroying the bees—and the hives should be again covered with the same box. The proprietor in order to avail himself of a portion of the honey, without destroying the bees, which is in no case necessary, and also for the purpose of changing the comb, must use double covers, between which he may introduce dividers, for the purpose of separating the tiers. In all cases of taking honey the upper tier must be removed, and empty ones inserted at the bottom.

To multiply artificial swarms without the trouble of swarming and hiving, place two empty hives, Plate 2, Fig. 5, (connected with the spout) as usual near the wall, with a full hive, *j*, behind them (or a full hive Plate 2, Fig. 6, may be placed on the top of two or more) with a suitable communication for the bees to pass through the empty hives to the spout. When the new hives become filled with comb and young broods, they must be separated, and will become independent colonies. All the hives must be of similar dimensions, with tops like other hives, that they may at any time be used as tier hives.

In order to employ bees profitably when they cannot collect honey from abroad, the feeding machine, Plate 3, Fig. 1, must be used, to construct which, prepare a board of the size of the bottom of the hive, Plate 3, Fig. 2, then make a frame of four sides, equal in size to the board, Plate 3, Fig. 3, three inches deep, the front side of plank, with a hole through it to correspond with the mortise in the cement floor, with a groove in the upper edge, extending from one end so far that a slide, Plate 3, Fig. 4, may be introduced, to cut off the communication with the spout, in order to prevent robberies &c. On the upper edges of this frame is to be fastened tin, or other smooth metal projecting inwardly one inch, and sloping 45 degrees, as may be seen in the sections of the frame and board, Plate 3, Figs. 5 and 6. The object of the tin is to prevent the grub from ascending, over this the board is to be placed, with the hole, &c., Plate 3, Fig. 2. Corresponding with that in the plank of the frame, *l*, Plate 3, Fig. 3, all that part of the board, *m*, *n*, *o*, *p*, Plate 3, Fig. 2, which covers the inside of the frame is to be cut into openings, three eighths of an inch wide, and one inch asunder, corresponding with the mortises in the cover. Between the cover and the tin is to be a slide, Plate 3, Fig. 7, of the size of the inside of the frame for the purpose of excluding the light, when cleaning the machine. The back side of the frame is to be used as a door, and kept in place by the springs, *g*, *r*, Plate 3, Fig. 8. This machine is to be placed near the walls, with the hole in the plank over that in the floor, and the hive kept on it at all times when there is a scarcity of flowers. By the use of this machine, a hive infested with grubs, or other foreign matter, may be cleared of them, as they will fall through the openings, in the forepart of the season, and may be taken out without disturbing the bees. It is also to be used whenever it may be necessary to feed the bees. On the approach of cold weather the machine with the hive on it, is to be moved back from the walls, so far as to close the avenue—the hole in the plank must be closed by the small slide, Plate 3, Fig. 4, the large slide removed, and the machine filled with cut straw, or other dry material, and the space between the hive and the wall filled with straw, other covering should also be placed on and about the hives, and removed in the spring. The hives should be made in a workmanlike manner, of good timber and all parts smooth except the bottom of the cover.

What I claim as my invention and desire to secure by Letters Patent is—

The construction of the spout, the balcony and its appendages, the ventilator, the construction of the feeder, and the method of constructing the double top of the hive, and the cement floor of the house; these I claim separately and in combination, the aforesaid invention being the best mode of producing artificial swarms of bees.

JOHN SEARLE.

Witnesses:
GEO. M. PHELPS,
JOSHUA FIFIELD.