T. F. BINGHAM.

Bee Hive.

No. 43.756. Patented Aug. 9, 1864.

Fig. 2.

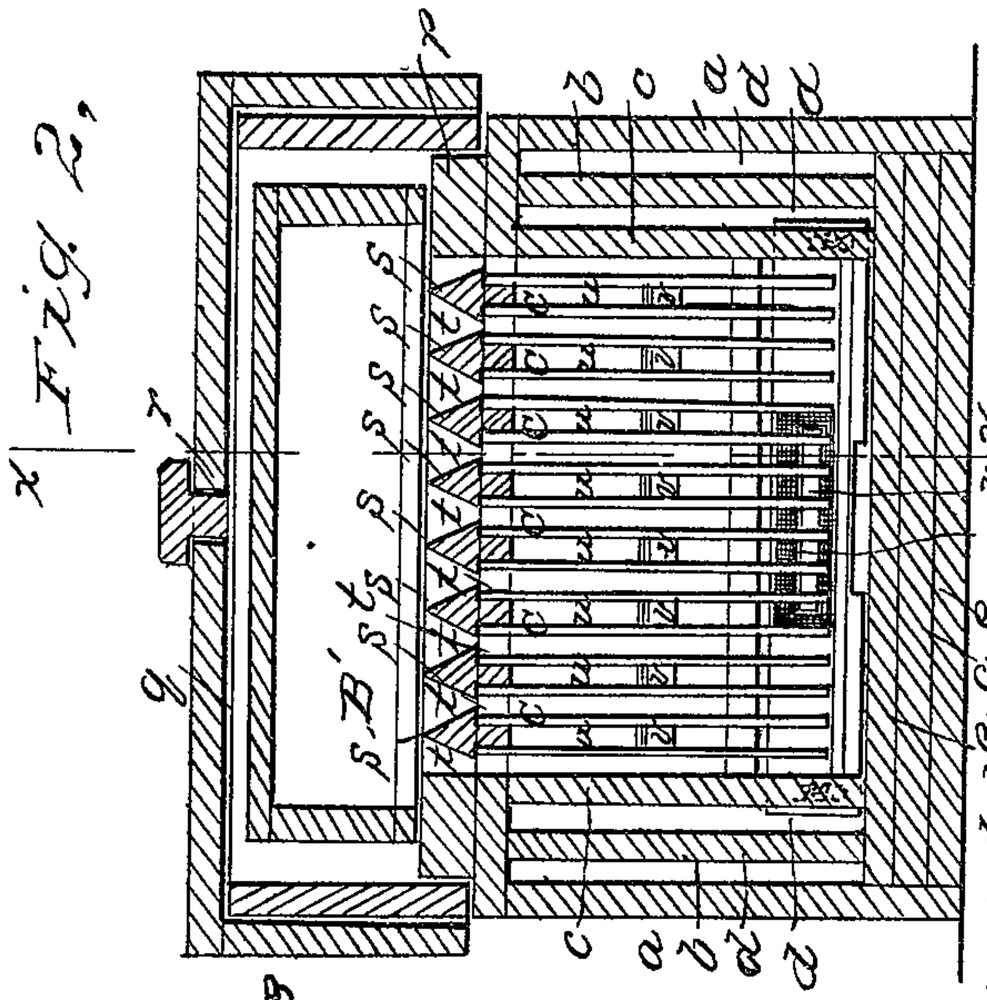


Fig. 4.

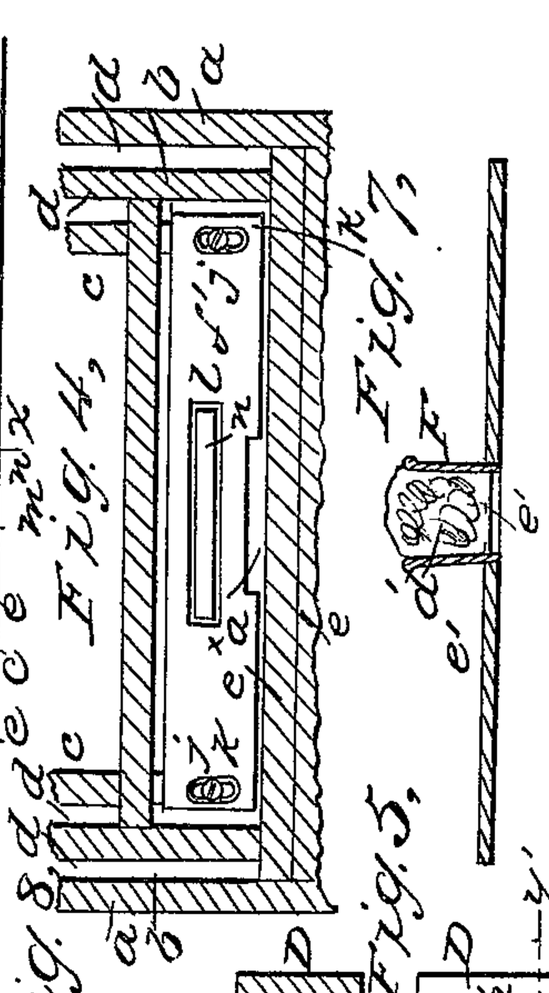


Fig. 7.

Fig. 6.

Fig. 5.

Fig. 1.

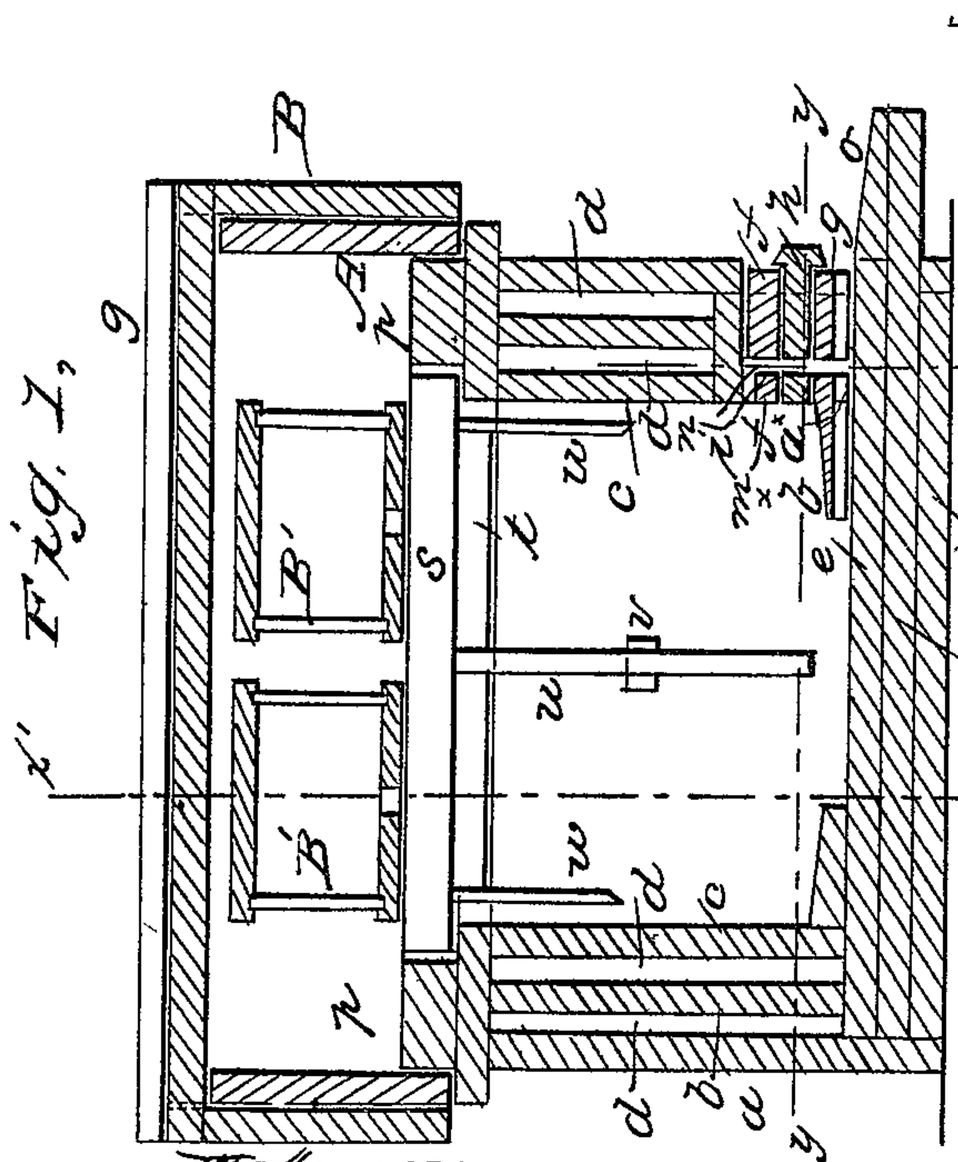
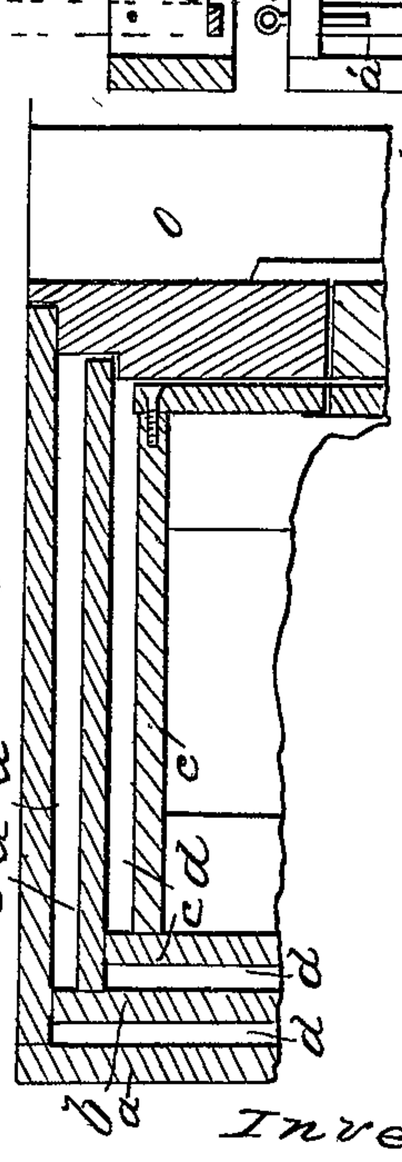


Fig. 3.



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UNITED STATES PATENT OFFICE.

T. F. BINGHAM, OF GOWANDA, NEW YORK.

IMPROVEMENT IN BEE-HIVES.

Specification forming parts of Letters Patent No. **43,756,** dated August 9, 1864.

To all whom it may concern:

Be it known that I, T. F. BINGHAM, of Gowanda, in the county of Cattaraugus and State of New York, have invented a new and Improved Bee Hive; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a vertical section of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a vertical section of the same, taken in the line *x' x'*, Fig. 1; Fig. 3, a horizontal section of a portion of the same, taken in the line *y y*, Fig. 1; Fig. 4, a vertical section of the lower part of the same, taken in the line *x'' x''*, Fig. 1; Fig. 5, a plan or top view of a feeding-box pertaining to the same; Fig. 6, a vertical section of the same, taken in the line *y'' y''*, Fig. 5; Fig. 7, a vertical section of a feeding cup pertaining to the same.

Similar letters of reference indicate corresponding parts in the several figures.

This invention has for its object the obtaining of a bee hive which will effectually protect the bees during the winter season, and the providing of the hive with an entrance well adapted for it, and which will be capable of being adjusted to suit the various circumstances required in bee culture.

The invention also has for its object the constructing of the comb frames in such a manner that they will economize in space, and at the same time effectually support the combs; and the invention has further for its object the obtaining of an extension cap to the hive, so arranged that supplemental spare-honey boxes may be added or applied when necessary.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

The body or main portion of the hive I construct with three walls, *a b c*, placed at a suitable distance apart, so as to form two dead-air spaces, *d d*, which spaces may, if desired, be filled with any suitable non conducting material. The bottom of the hive is composed of three pieces, *e e e*, which may also be placed and secured at a suitable distance apart to admit of spaces being between them, as shown in the side walls, *a*, or said pieces *e* may be secured together in close contact, as shown in Figs. 1 and 2. The bee entrance is at the lower part of the front side of the hive, and it is composed of two parts, *f f'*. The outer part, *f*, extends past the two outer walls, *a b*, of the hive, and is fitted in an opening which extends the whole width of the hive. This part *f* also has an oblong opening, *g*, in it which is closed by a slide, *h*, when necessary, and in the under side of *f*, directly under the opening *g*, there is made an oblong slot, *i*. The part *f'* of the bee entrance is secured by screws *j j* to the inner wall, *c*, of the hive, said screws passing through vertical slots *k* in *f'*, and the latter has an oblong opening, *l*, made in it which is covered with wire cloth *m*, and may be stopped or closed by a slide, *n*, when necessary. (See Figs. 1, 2, and 3.) The lower edge of *f'* is also provided with an oblong slot, $a^{\times}$, about equal in dimensions to the slot *i* in the front part, *f*. The bottom of the hive projects outward some distance in front to serve as an alighting board, *o*. (See Fig. 1.) By this mode of constructing the hive the bees will be perfectly protected during the winter season, the triple walls keeping the interior of the hive at a uniform temperature and sufficiently high so that the moisture will not condense on the inner wall, *c*. The hive therefore will always be dry and the bees kept in a healthy state, and the hive protected from injury produced by moisture.

By having the bee-entrance composed of two parts, as shown, the frost is prevented from entering the hive, and the inner part, *f*, may be adjusted so as to admit of the bees passing under it its entire length, or over it, as may be desired, or to admit of the air passing into the hive, both above and below it, while the entrance for the bees will be confined to the slot $a^{\times}$. When a swarm of bees is being hived, the part *f* may be so adjusted as to prevent the exit of the queen and yet allow the free entrance and egress of the workers; or said part may be so adjusted as to prevent the entrance of drones when it is desirable to diminish their number, and by means of an inner projection, $b^{\times}$, the moth is effectually excluded. By removing the outer part, *f*, a protected summer entrance is obtained, the bees being furnished with a good shelter, which is a great advantage in windy weather, and in winter by using the two parts *f f'* the hive is kept warm. The outer part, *f*, may be used at any time, however, and with great advantage

during the moth season, as the two parts render the hive essentially moth-proof. On the upper part of the main portion or body of the hive there is placed a rim, A, composed of four sides, but having no top nor bottom. This rim A is fitted around cleats *p* on the top of the hive, and within it are placed the spare honey boxes B′ B′, which may be constructed in the usual or in any proper manner. Over this rim A a cover, B, is fitted, which is of quadrilateral form, corresponding to the rim A, and allowed to rise and fall freely on or over A. The cover B is provided with a top plate, *q*, and a ventilating-opening, *r*. By this arrangement I obtain a double walled cap to inclose the spare honey boxes, and during the working season the cover B may be raised and supplemental spare honey boxes placed under the ones originally inserted in the cap—that is, when the latter-named boxes are nearly full. During the winter season a bottom may be placed in the rim A, with a proper ventilating-opening, and straw or other suitable non-conducting material may be placed within A, which, when the cover B is fitted over it, will form a great protection against the cold.

C represents the comb frames, which are composed each of a top bar, *s*, of triangular form in its transverse section, and having a square or rectangular bar, *t*, secured to its under side. The bar *t* is rather shorter than the bar *s*, and to each side of the bar *t*, at about its center, there is attached a pendent or vertical bar, *u*, the latter extending down to nearly the bottom of the hive and having a cross-piece, *v*, between them at about their centers.

To each end of the bar *t* there is attached a pendent or vertical bar, *w*, and these bars extend down to about half the length of the bars *u*. The ends of the bars *s* rest on the edges of the top of the body or main portion of the hive. By this mode of construction the combs will be efficiently supported and much room or space in the hive is saved. Bees do not attach the combs more than half way down the sides of the frame, and never at the bottom, and hence the square frames hitherto used monopolize unnecessarily considerable space.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A bee-hive constructed with triple walls *a b c*, with spaces *d d* between them, substantially as and for the purpose specified.

2. The bee-entrance composed of two parts, *f f′*, both parts being provided with openings or slots, and the inner one, *f*, made adjustable, substantially as and for the purpose specified.

3. The comb frames composed of the horizontal bars *s t* and pendent bars *u w*, all arranged and combined as and for the purpose specified.

4. The rim A, in combination with the cover B, arranged and applied as and for the purpose specified.

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