

T. A. EDISON.

Printing Telegraph Apparatus.

No. 113,033.

Patented March 28, 1871.

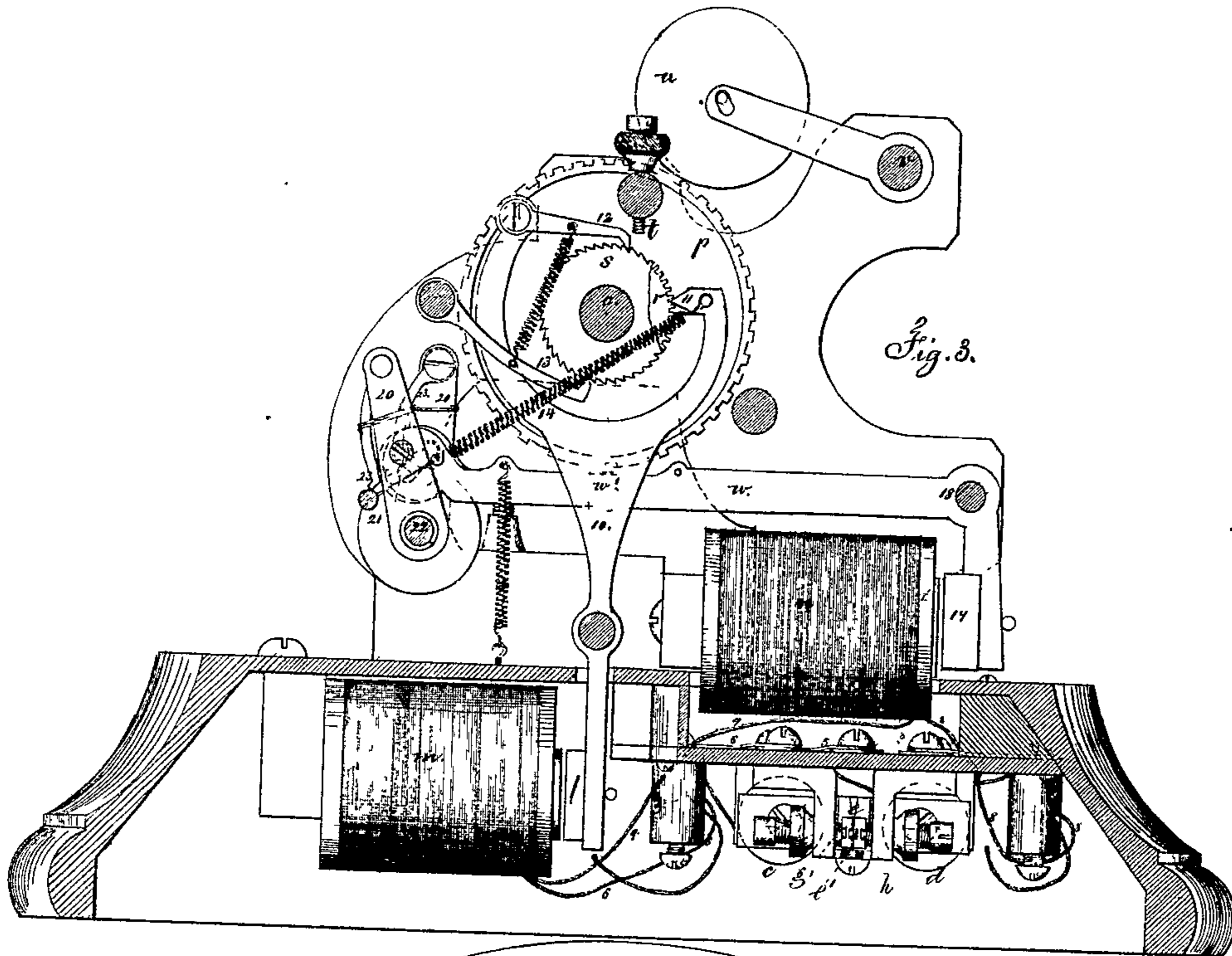


Fig. 3.

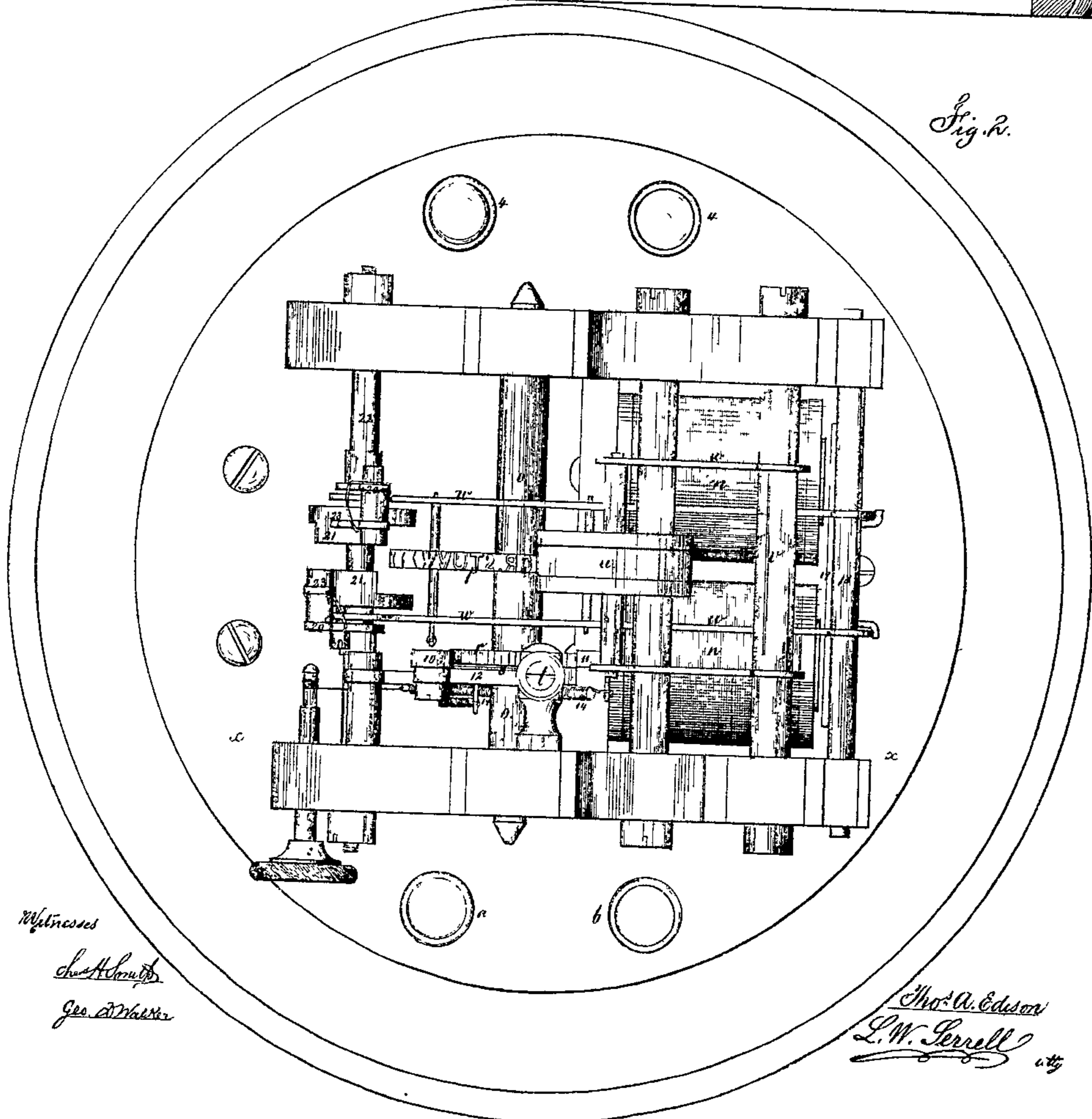


Fig. 4.

Witnesses  
Geo. H. Smith  
Geo. A. Mason

Thos. A. Edison  
L. W. Serrell

(No Model.)

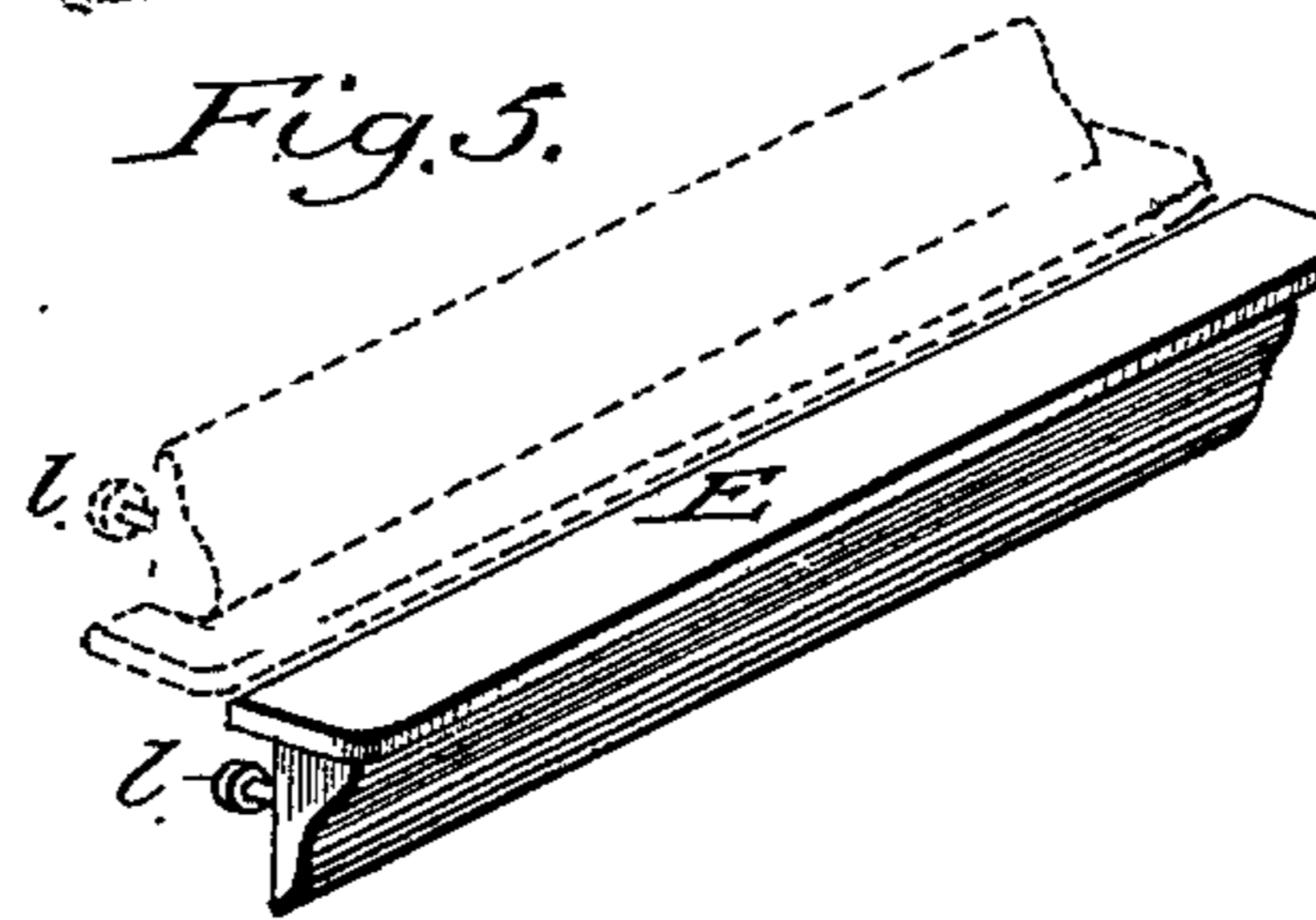
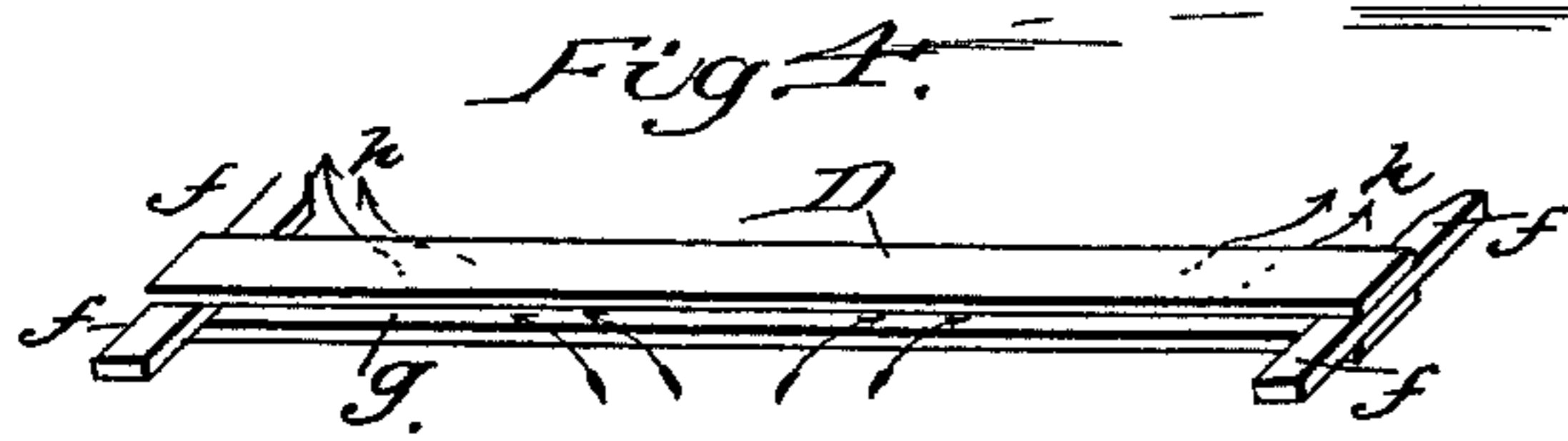
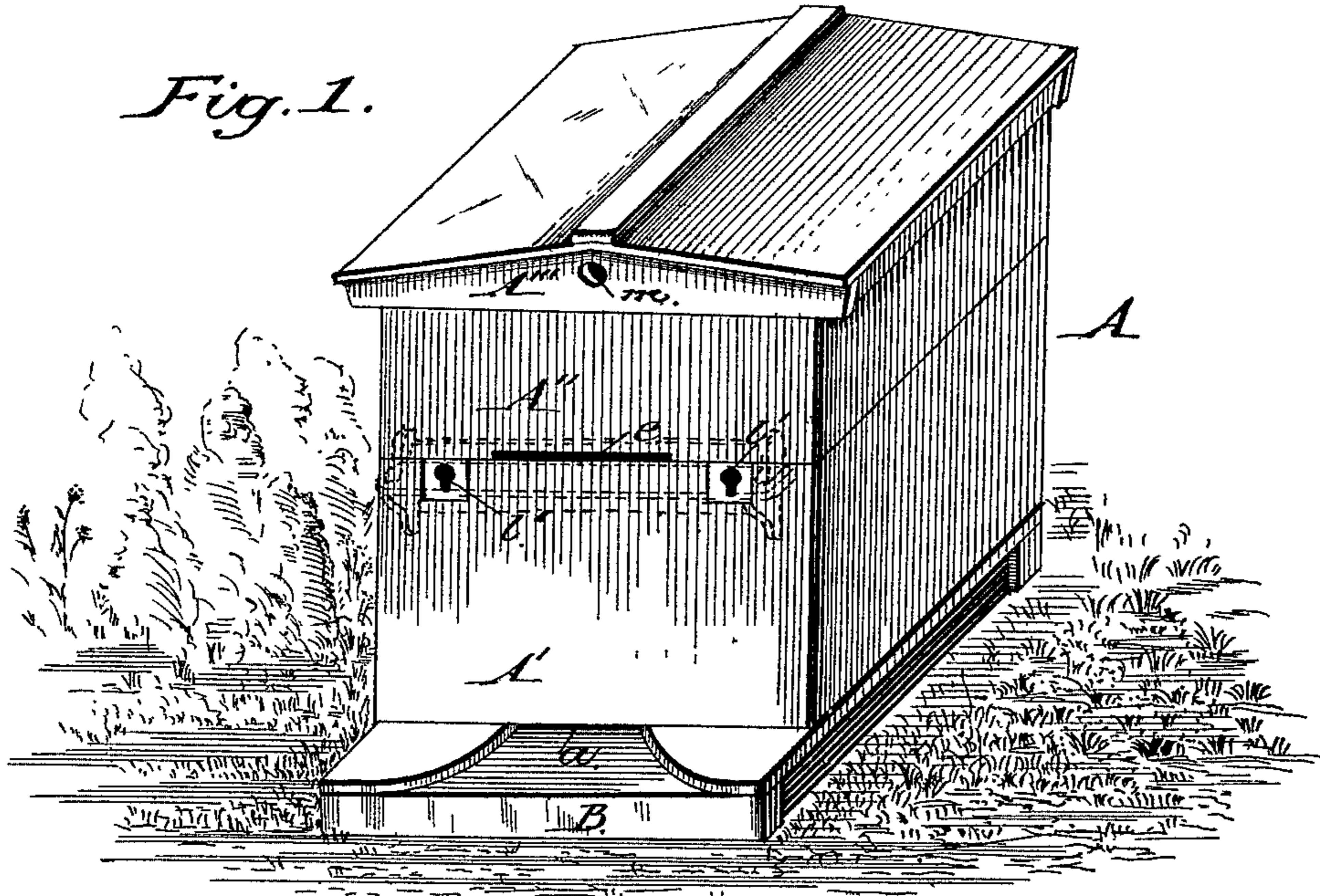
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F. E. MERRIMAN.

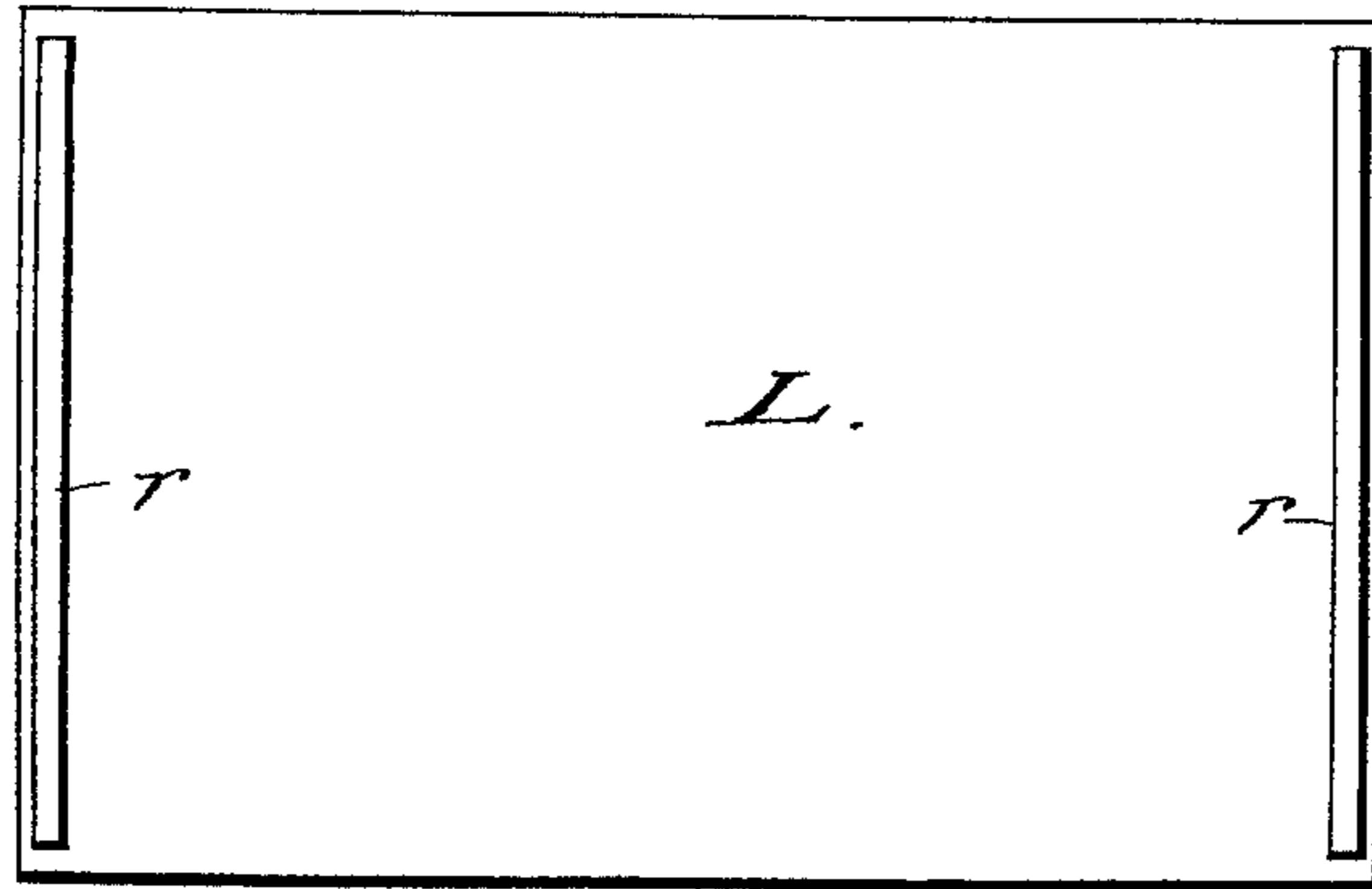
BEE HIVE.

No. 413,239.

Patented Oct. 22, 1889.



*Fig. 6.*



WITNESSES

*J. B. Love*  
*H. M. Latham*

INVENTOR

*Francis E. Merriman*

(No Model.)

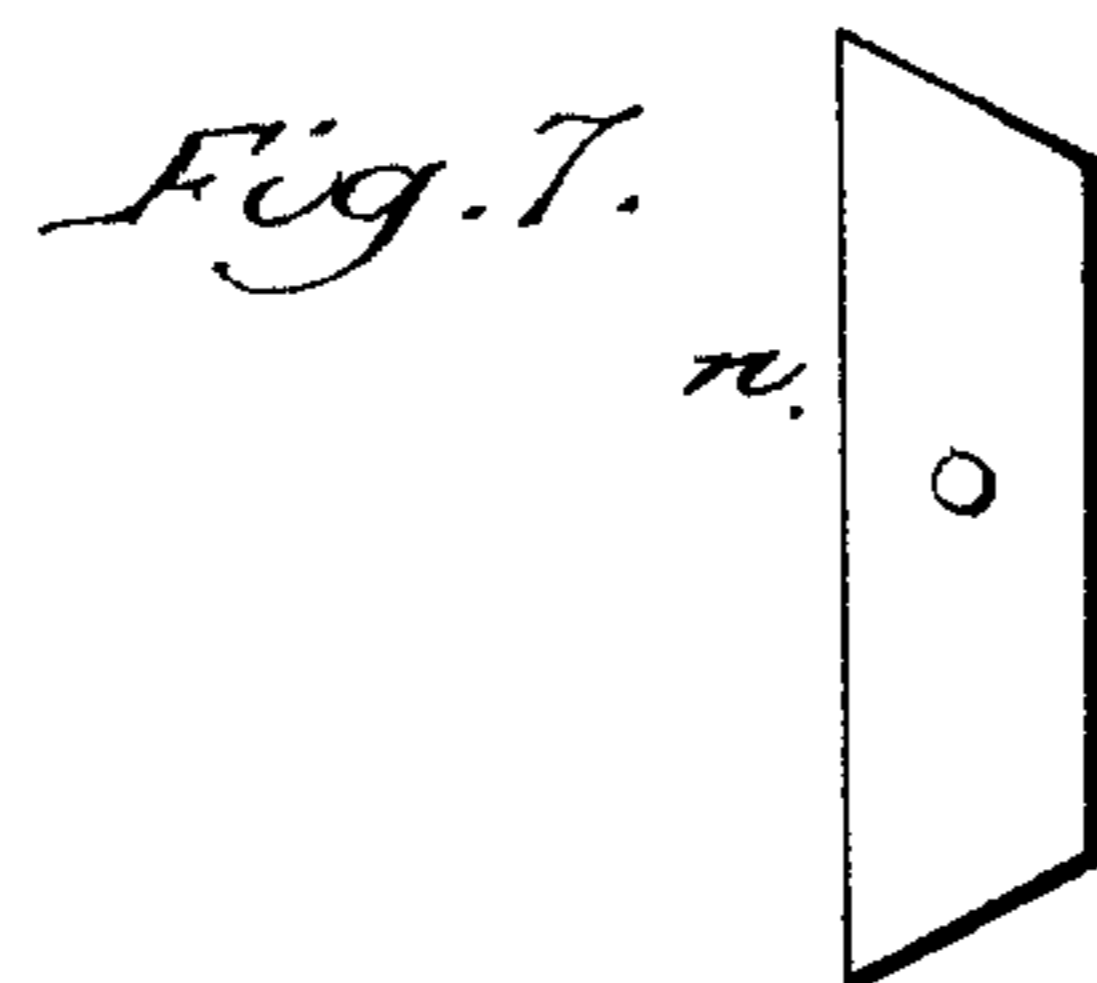
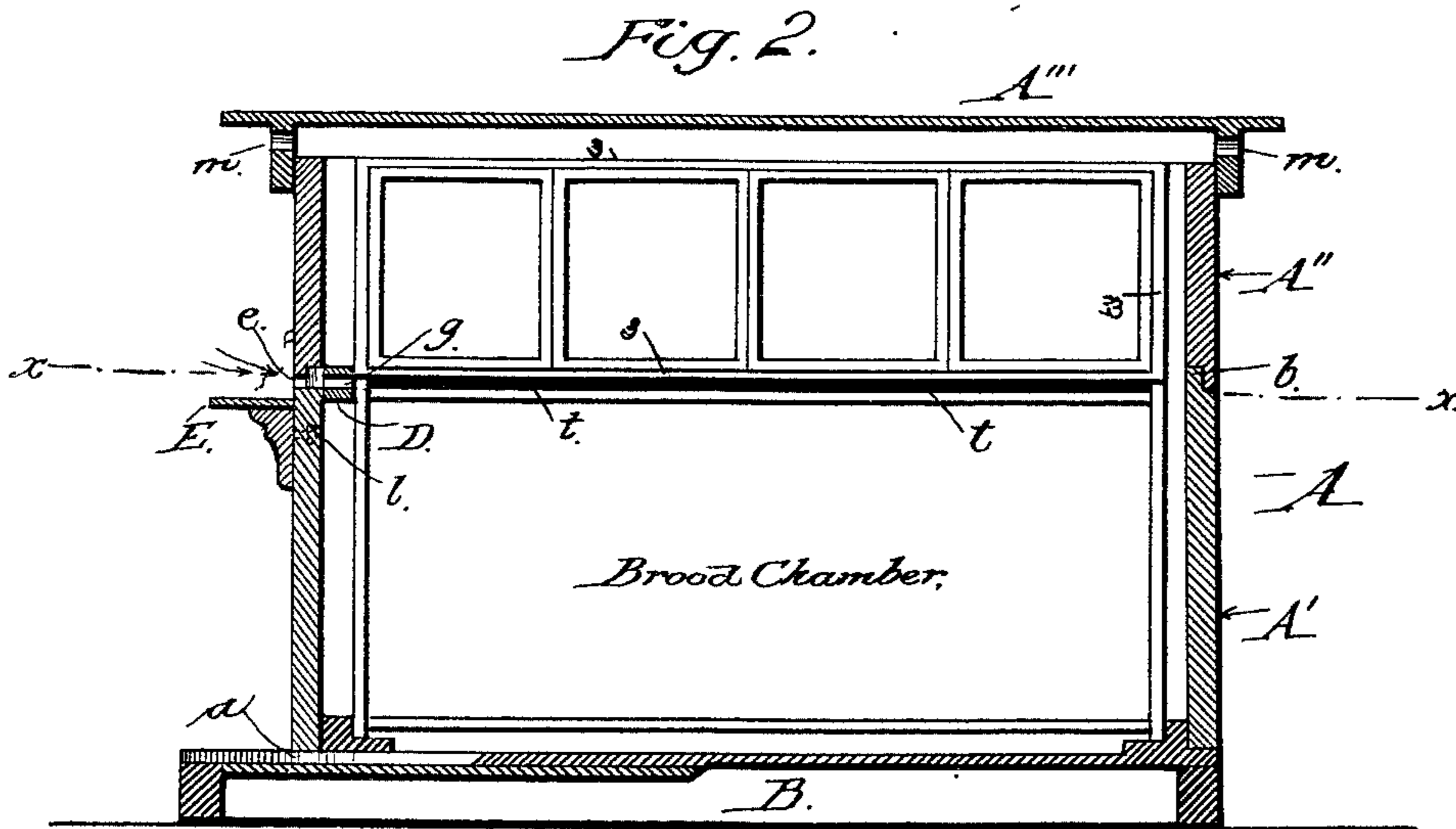
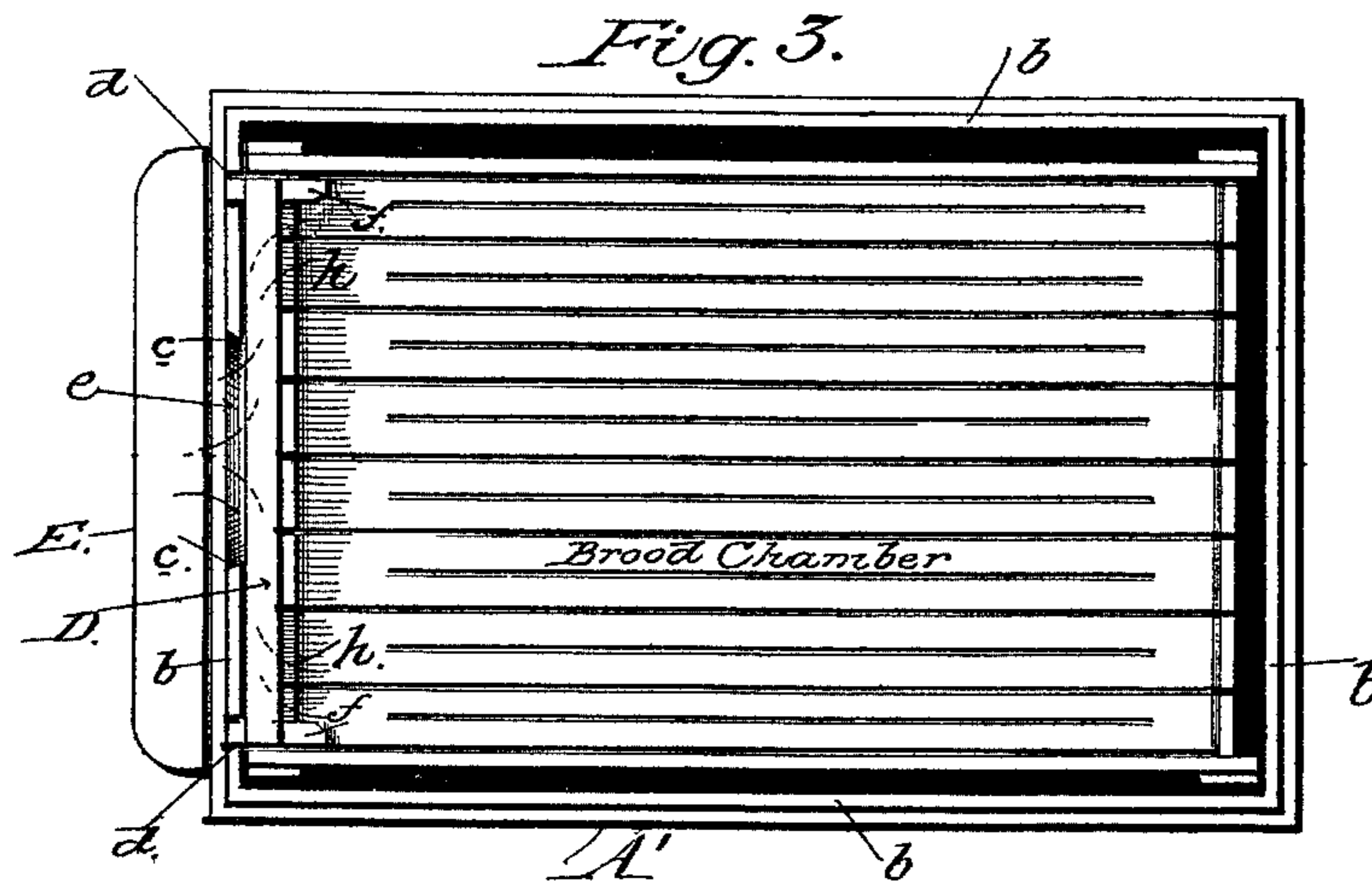
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F. E. MERRIMAN.

BEE HIVE.

No. 413,239.

Patented Oct. 22, 1889.



WITNESSES

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(No Model.)

3 Sheets—Sheet 3.

F. E. MERRIMAN.

BEE HIVE.

No. 413,239.

Patented Oct. 22, 1889.

Fig. 9.

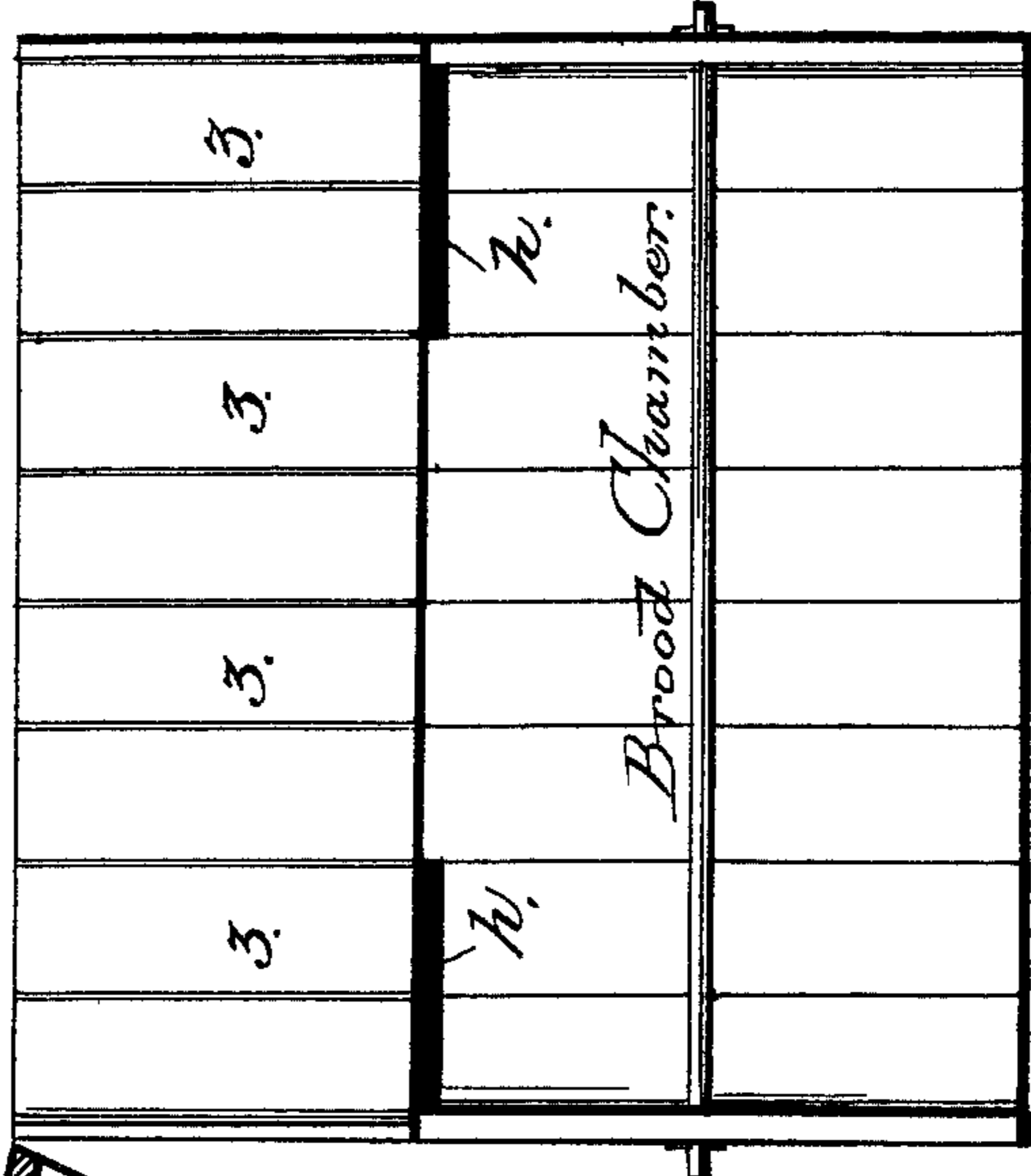
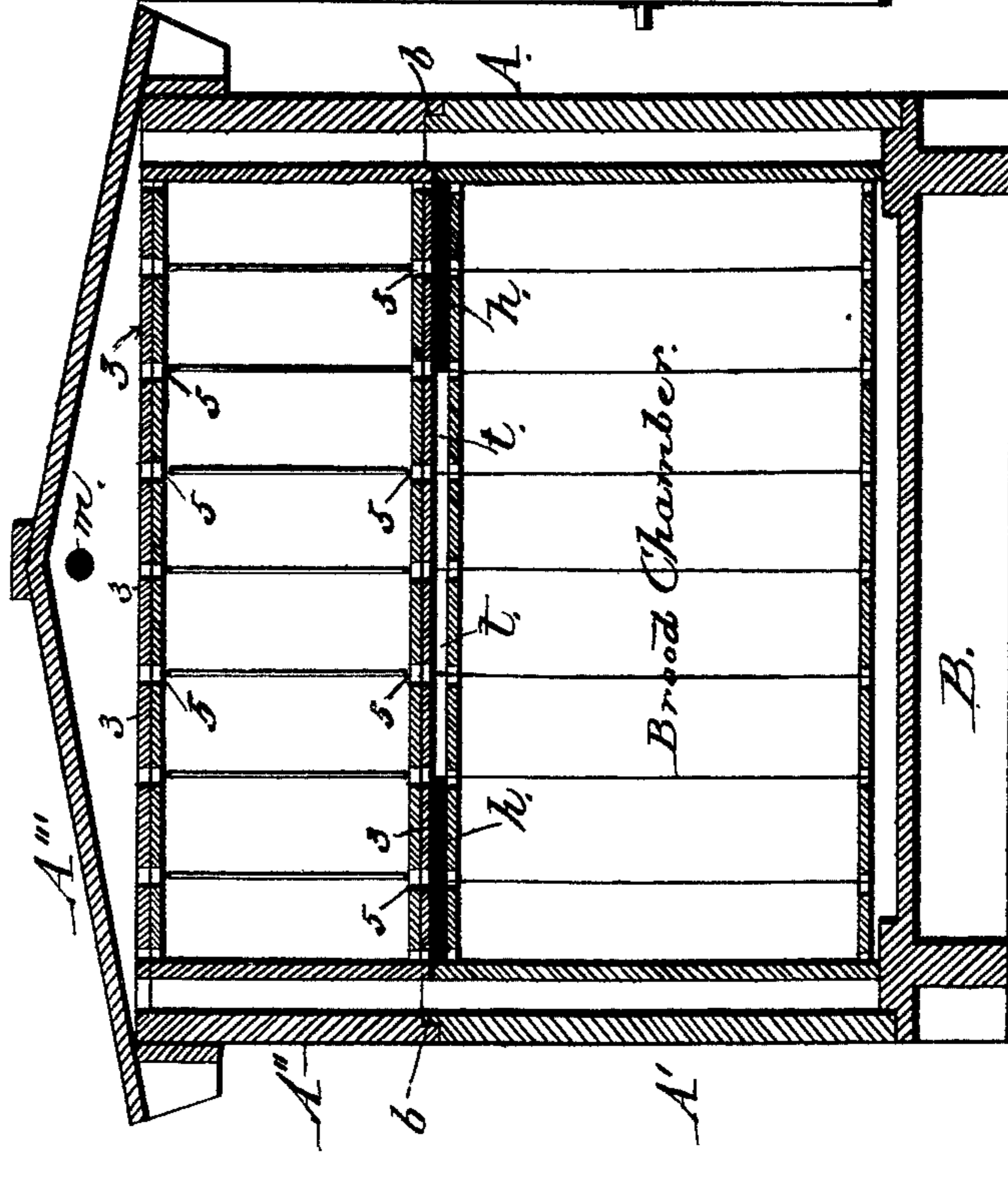


Fig. 8.



WITNESSES

*J. M. Wooster*  
*R. H. Bishop.*

INVENTOR

*Francis E. Merriman.*

# UNITED STATES PATENT OFFICE.

FRANCIS E. MERRIMAN, OF BOSTON, MASSACHUSETTS.

## BEE-HIVE.

SPECIFICATION forming part of Letters Patent No. 413,239, dated October 22, 1889.

Application filed April 3, 1889. Serial No 305,842. (No model.)

*To all whom it may concern:*

Be it known that I, FRANCIS E. MERRIMAN, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Bee Hives; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Figure 1 is a perspective view of a bee hive embodying my improvements. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a horizontal sectional view on the line  $xx$  of Fig. 2. Fig. 4 is a detail of the removable and reversible "bridge" on an enlarged scale. Fig. 5 is a perspective view of the removable and reversible alighting shelf detached. Figs. 6 and 7 are details to be referred to. Fig. 8 is a cross sectional view of the hive. Fig. 9 is a front view of the comb frames in the brood chamber, showing the honey-rack separated therefrom to form the bee space  $t$ .

My invention relates to certain new and useful improvements in bee hives; and it consists in the construction and combinations of devices which I shall hereinafter fully describe and claim.

Referring to the drawings, A indicates the outer casing of the hive, constructed of any suitable material and design and comprising, preferably, two sections or stories  $A'$   $A''$ , and  $A'''$  is the top or cover, the said section  $A'$  being suitably placed or mounted upon the base B, provision, however, being made at  $a$ , between the lower section and base, for the entrance of bees to the brood-chamber in the usual manner. The section  $A''$  is placed upon the top of the lower section  $A'$ , being sustained in place by ledges  $b$  of the said section, the ledge at the front portion of the lower section  $A'$  being cut away at  $c$  and  $d$ , for purposes which I shall hereinafter fully indicate. The section  $A''$  contains the removable honey - sections, which are surrounded by a suitable honey-rack 3, having the usual bee-spaces 5, and the said section  $A''$  is supported upon the upper projecting ends of some of the comb-frames in the brood-chamber, so as to leave a bee-space  $t$  between

the said honey-rack and comb-frames in the brood-chamber for the passage of the bees, a space being also provided between the comb-frames in the brood chamber and honey-rack and inner walls of the casing, which is filled with chaff or other packing, so that the hive will winter bees out of doors.

In the construction of many hives in use at the present time a single opening or entrance is provided at the base, and this opening is the only means by which or through which the bees enter and leave the hive. By so constructing the hive it is obvious the working-bees in both entering and leaving the hive have to traverse the brood-chamber before they can enter the honey-sections, and are again compelled to pass through the said brood chamber before they can again reach the open air. As the brood chamber is generally full of young bees and nurse-bees, which cluster over the brood-comb in great numbers, filling the spaces between the combs in the brood-chamber, it is evident the passage of the working bees to and from the honey sections is greatly retarded and much damage may be done to the constantly-hatching bees.

To overcome the objections to such constructions, I make another entrance for the working bees at the second story, or, in other words, at a place which is about in line with the horizontal space between the upper bars of the comb frames of the brood-chamber and the bottom of the honey-rack. This entrance or opening is shown in Figs. 1 and 2 at  $e$ , and corresponds with and forms a part of the cut-away portion  $c$  in the front ledge  $d$ , previously mentioned; and to prevent the bees escaping into the vertical space between the brood-chamber and sections and inner walls of the casing I place in front of the top of the brood-chamber a bridge D, which spans the vertical space between the inner side walls of the comb-frames in the brood-chamber and between the front of said comb frames and the inner front wall of the casing, as shown in Figs. 2 and 3, the said bridge being supported in position between the front of the comb-frames in the brood-chamber and inner face of the front ledge  $b$  of the section  $A'$  by short transverse cleats or arms  $f$  at each end, which rest upon

the top of the comb-frames in the brood chamber and in the cut away portions *d* of the ledge *b*, as shown in Fig. 3. The bridge is formed with a passage *g*, which is in direct alignment  
 5 with the adjacent entrance *e* and the horizontal space *t* between the honey rack carrying the honey sections and comb-frames in the brood chamber, and extends nearly or quite the full length of the bridge. The passage in the bridge communicates at its front  
 10 central portion with the entrance *e*; but the rear of the passage is closed by the front part of the comb frames in the brood chamber, except that portion *h* which is formed by cutting  
 15 away the upper ends of some of the said comb-frames near each end of the bridge, so that the bees entering the hive through the opening *e* pass into the bridge toward the end portions *h*, which lead directly into the bee space  
 20 between the honey-racks and comb frames in the brood chamber. This construction enables the bridge to be placed in position without difficulty, makes the bridge removable and reversible, because either end may be  
 25 slipped into position without any fitting or adjustment, and, by reason of its relation with the other parts just mentioned, prevents loss of warmth of the bees and the injurious effects of direct drafts into the space, and also  
 30 prevents the packing or chaff from getting into the brood-chamber and honey sections.

To further facilitate the entrance and departure of the working bees, I secure to the front of the section *A'* of the casing an alighting-board *E*, the top surface of which is  
 35 slightly below the entrance *e*, so as to be readily accessible to the bees in their ingress and egress. This alighting board is reversible and removable, being provided with the  
 40 back piece or ledge *E'*, and with headed pins *l*, which enter elongated slots in the front of the section *A'*, whereby it is removably supported in position, and the said slots have enlarged portions which receive the heads of  
 45 the pins, after which the shanks of said pins are forced into the contracted portions of the slots and the alighting board securely and detachably held in position. The piece or ledge *E'* at the rear under side of the shelf  
 50 or alighting-board *E*, where the latter is reversed, as shown by dotted lines in Figs. 1, 2, and 5, closes the entrance *e* to the hive, which is desirable when robber-bees attack the hive or during a cold and driving storm.

55 As previously described, this hive contains preferably two sections and a cover or top, the first story or section *A* containing and having its top about flush with the upper surface of the horizontal bars of the comb-  
 60 frames in the brood-chamber, the second story *A''* containing the honey sections, and *A'''* is the cover, having an opening *m* for ventilating the space between the outer case and the internal structure.

65 In winter the alighting board may be removed, also the honey rack and honey sections and bridge, and the opening or en-

trance *e* may be closed, when desired, by a block or piece *n* (see Fig. 7) fitting it snugly and secured in place by a pin or equivalent  
 70 means. The bridge and honey sections being thus removed, the entrance to the bee-space *t* is closed by a honey-board or cover *L*, (see Fig. 6,) which is fitted on top of the comb-frames in brood-chamber, and provided  
 75 with cleats *r*, which fully closes the cut-away portions *h* when the board is placed in position.

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

1. The combination, with a hive having an entrance or aperture leading to its interior, of a removable and reversible alighting-board having a back piece *E'*, provided with secur-  
 85 ing devices, substantially as described, said back piece being of a width sufficient to close the inlet-opening when the alighting-board is reversed, substantially as herein set forth.

2. The combination, with a hive having an  
 90 entrance or opening leading to its interior and provided with slots in its front wall, of a removable and reversible alighting-board having a back piece provided with headed pins or bolts adapted to engage said slots, said  
 95 back piece being sufficiently wide to close the said entrance or opening when the alighting-board is reversed, substantially as herein set forth.

3. A hive having a brood-chamber, a honey-  
 100 rack having honey-sections, and slightly elevated above the comb frames in the brood-chamber to form the bee space or passage *t*, and an exterior casing having an opening or passage leading to the bee-space *t*, in combi-  
 105 nation with a removable and reversible bridge interposed between the space *t* and the entrance, and having a passage in communication with said bee-space and entrance, substantially as herein described. 110

4. The combination, with a hive having a brood chamber and a honey-rack, said brood-chamber having some of its central comb frames extended, whereby the honey-rack and comb frames of the brood-chamber are separated from each other to form the bee space  
 115 or passage *t*, and an exterior casing having an entrance in alignment with the bee space or passage between the honey-rack and comb-frames in the brood-chamber, of a bridge  
 120 spanning the vertical space between the inner wall of the casing and the front of the comb frames in the brood-chamber, and having a passage communicating at its central portion with the entrance opening and at  
 125 its end portions with the bee space or passage, substantially as and for the purpose described.

5. An improved bee-hive comprising a base, the casing formed of the sections *A'* and *A''*,  
 130 and ventilating top or cover *A'''*, the brood-chamber in the section *A'*, the honey-rack in the section *A''*, and separated from the comb-frames in the brood-chamber by the horizon-

tal bee space or passage *t*, an entrance or  
opening between the sections A' and A'' and  
in alignment with the bee-space *t*, a remov-  
able and reversible bridge between the front  
5 of the bee-space *t* and the entrance, and hav-  
ing a passage communicating with both, and  
a removable and reversible alighting-board  
exterior of the hive, and detachably secured  
to the casing just below the entrance-open-

ing, substantially as and for the purpose de- 10  
scribed.

In testimony whereof I affix my signature in  
presence of two witnesses.

FRANCIS E. MERRIMAN.

Witnesses:

S. M. MINASIAN,  
FRED J. LAPENOTIERE.

Sept. 12, 1933.

S. J. CARNES

Des. 90,646

FISH BOWL

Filed July 5, 1933



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BY *Louis Necho*  
ATTORNEY