(No Model.)

2 Sheets—Sheet 1.

W. GROFF.

BEE HIVE.

No. 330,783. Patented Nov. 17, 1885.

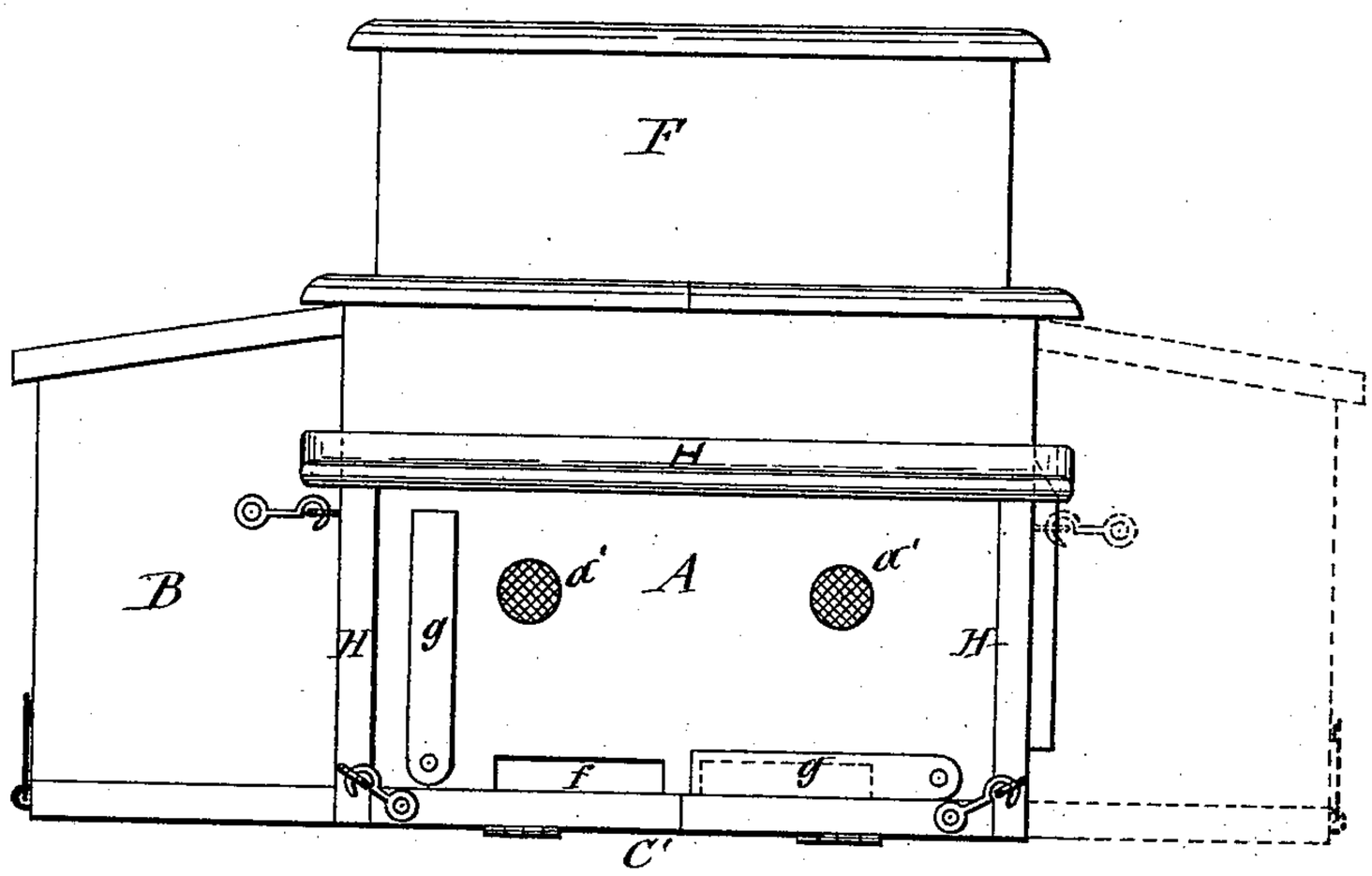

FIG-1-

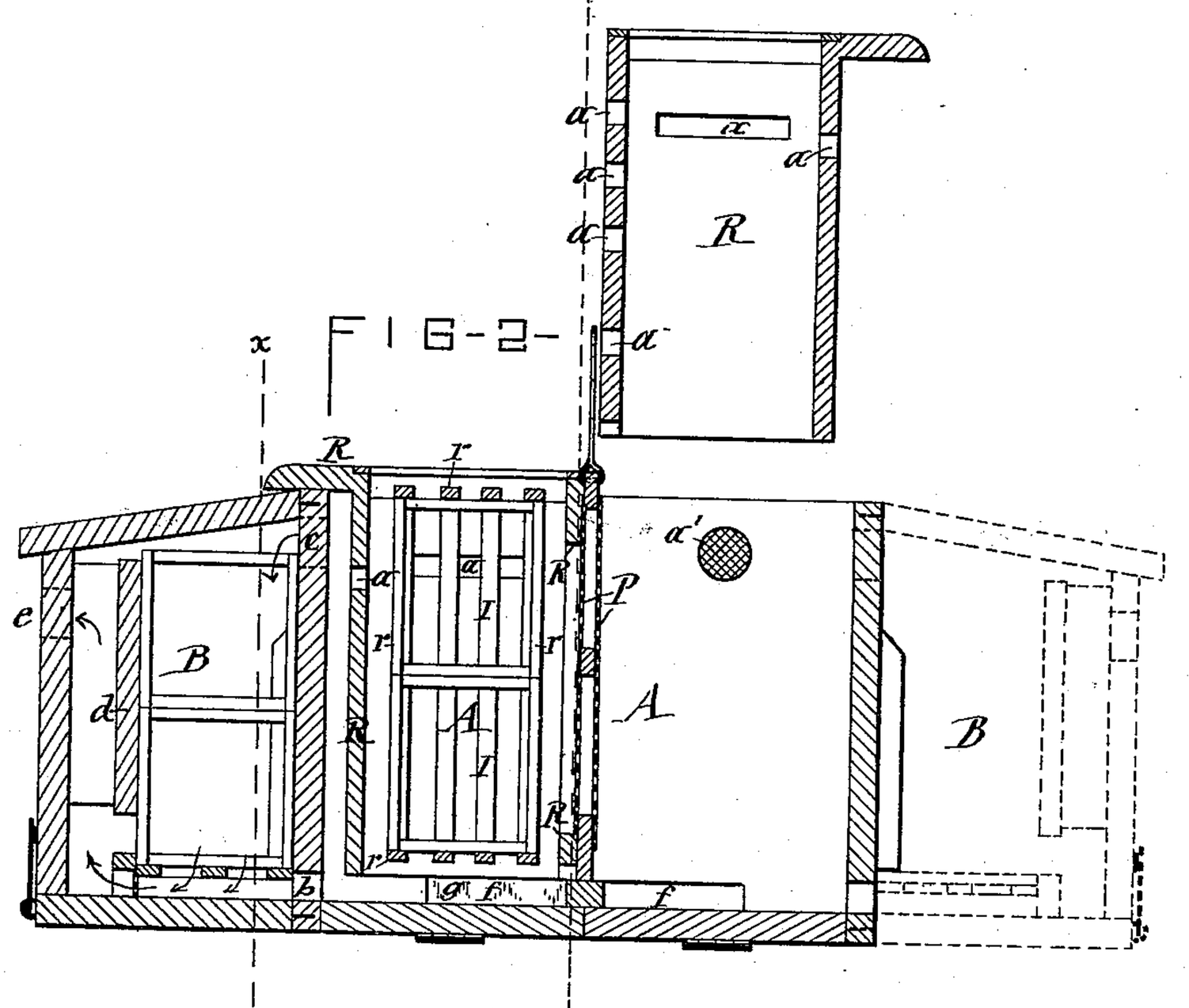

FIG-2-

ATTEST — x

Wm. C. Raymond

C. Bendixon

y

INVENTOR —

William Groff

per Duell, Lakin & Hay

his Attys

(No Model.) 2 Sheets—Sheet 2.

W. GROFF.

BEE HIVE.

No. 330,783. Patented Nov. 17, 1885.

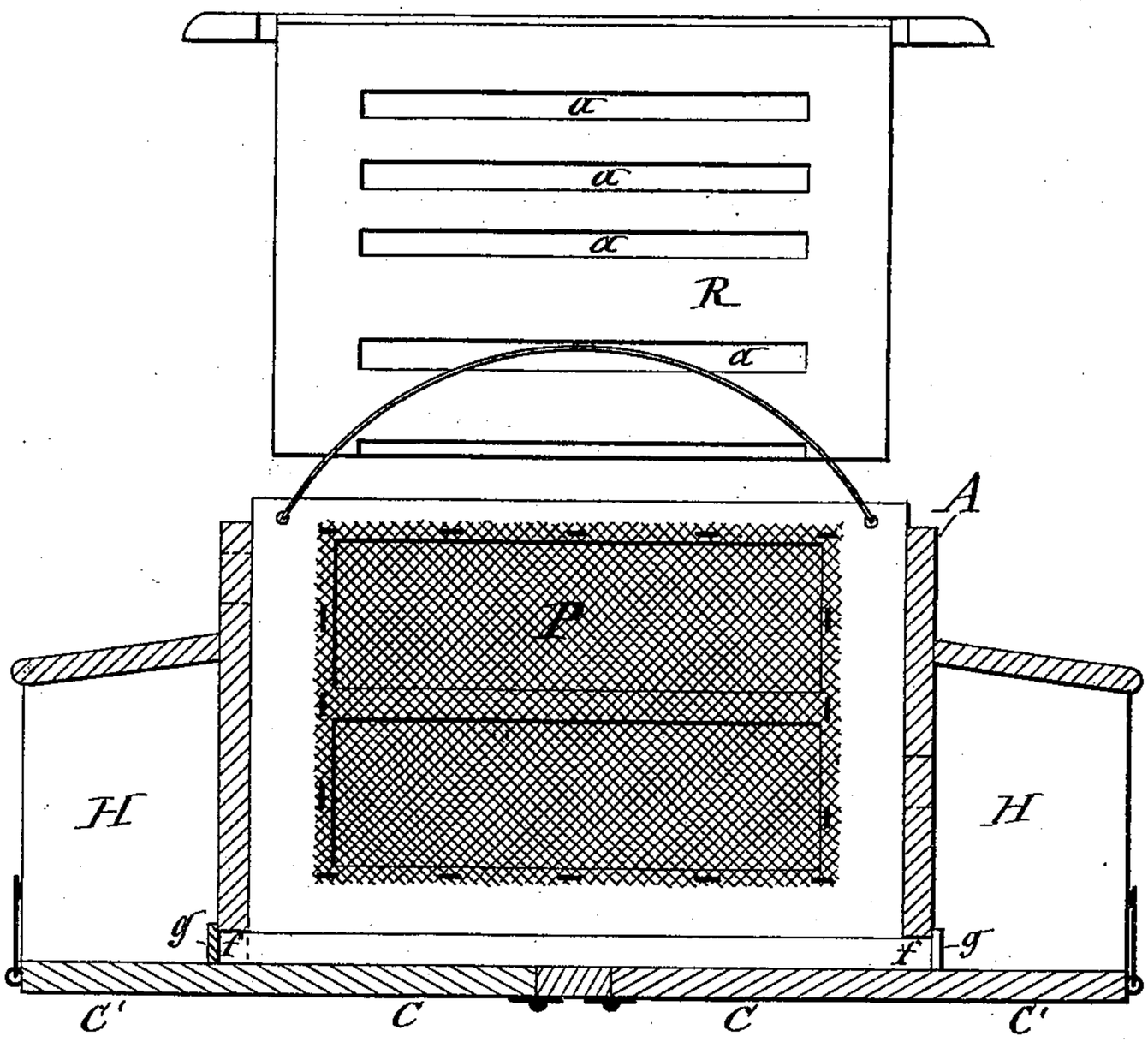

FIG-3-

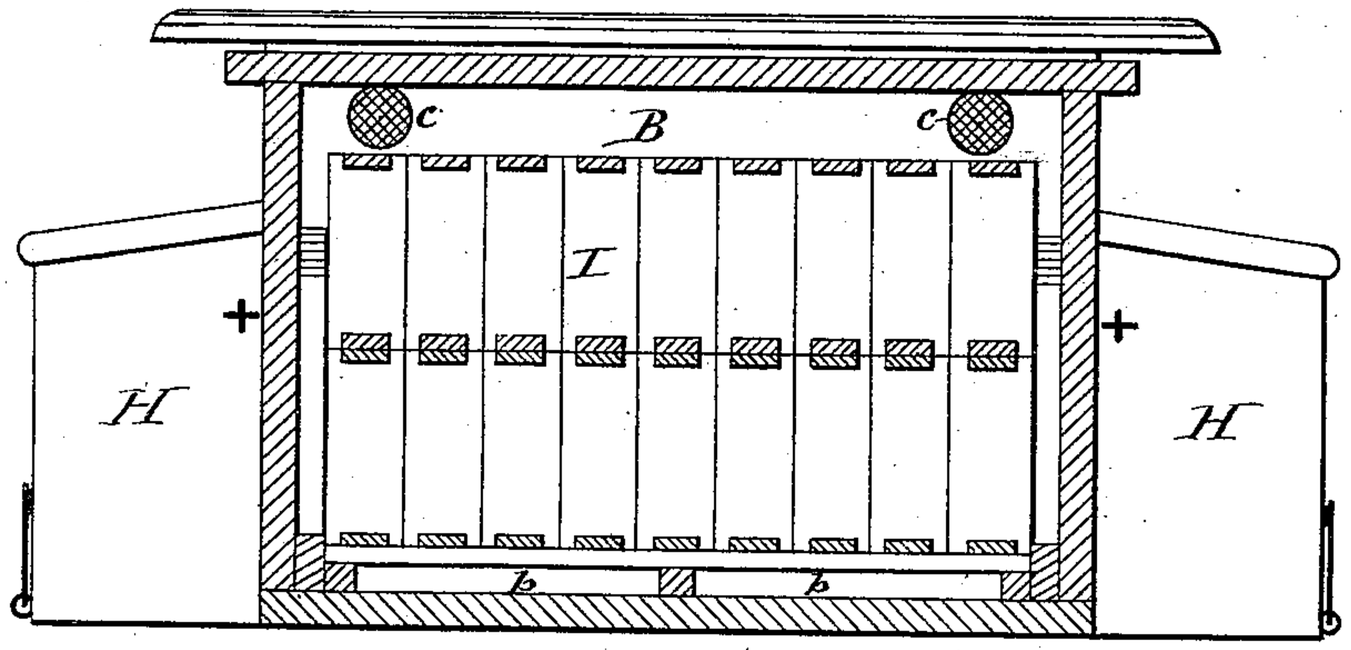

FIG-4-

ATTEST—
Wm. C. Raymond
C. Bendixon

INVENTOR—
William Groff
per Dewey, Learnt & Dey
his Attys

UNITED STATES PATENT OFFICE.

WILLIAM GROFF, OF ROME, NEW YORK.

BEE-HIVE.

SPECIFICATION forming part of Letters Patent No. 330,783, dated November 17, 1885.

Application filed April 17, 1885. Serial No. 162,523. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM GROFF, of Rome, in the county of Oneida, in the State of New York, have invented new and useful Improvements in Bee-Hives, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

The invention relates to the class of bee-hives which have a removable partition, allowing the interior to be divided into two compartments for two colonies, or to be thrown into one chamber to merge two colonies into one.

My invention consists in an improved construction and combination of the component parts of the bee-hive, which afford more perfect control of the bees, so as to prevent their swarming outside of the hive; and the hive is also adapted for raising queens by dividing the swarm into colonies within the hive, separated so that the colonies are made to work independent of and without molestation from each other, my invention also possessing several other advantages over other bee-hives, as will be hereinafter explained.

In the annexed drawings, Figure 1 is a front view of my improved bee-hive. Fig. 2 is a vertical longitudinal section of the same without its cover and with one of the cases raised out of the hive. Figs. 3 and 4 are transverse sections, respectively on lines *y y* and *x x*, Fig. 2.

Similar letters of reference indicate corresponding parts.

A denotes the main hive, consisting of a rectangular box provided with a removable cover, F, and a hinged double bottom, C, by which latter access is obtained to the interior of the hive for cleaning the same. This box I divide into two compartments by a removable open-work vertical partition, P, which I form of two wire-gauze or perforated sheets secured to opposite sides of a frame, which holds the said sheets a proper distance apart to effectually prevent communication of the bees at one side of the partition with those at the opposite side. Each of the compartments is provided with an entrance, *f*, at each end, front and rear, and with removable gates *g* over the entrances.

R R represent cases hung removably in the compartments of the box A, and in said cases are suspended racks *r r*, in which the comb-frames I I are placed. The cases R R are provided with ventilating-ports *a a* in their vertical sides, and the air is admitted to and emitted from the interior of the hive by ports *a' a'* in the front wall of the hive, covered with wire-gauze.

The main object of the described construction of the hive A is to maintain the bees at work and prevent their swarming outside of the hive, and also to increase the colonies, either during or after the swarming season, and this is accomplished in the following manner: Whenever there is discovered an inclination of the bees to hang out or swarm, one of the cases R occupied by bees is removed from the box A and placed by the side of an empty case R in another similar box A, and an empty case is placed in the box from which the full case was taken. In this operation of transferring the colonies the cases R perform very important functions—viz., by means of said cases an entire section of the interior of the hive is removed and transferred at one operation, and inasmuch as the bees remain housed in the case R during the transfer the danger of being stung by the bees is almost entirely obviated.

When the full case R is placed in a box containing an empty case, the partition P between the two cases is to be removed to allow the bees to work over into the empty case. In two or three weeks thereafter the partition P is inserted between the two cases to separate the bees again into two colonies. The double partition effectually prevents communication between the two colonies, and by opening the entrance-port *f* of the compartment containing the new colony at the end opposite to that which is open to the other compartment the two colonies are made to approach the hive from opposite directions, and thus the separation of the colonies is still more insured.

By the aforesaid separation of the two colonies one of said colonies is left without a queen, and this colony then builds from one to twenty queen-cells to raise queens. I take these queens all out except one, and of the removed queens I preserve those which are best developed for future use to supply colonies that may lose a

queen, or have a poor queen, and in this way maintain the colonies in a good healthy condition.

The hinged bottom C, I form with an extension, C′, in front of the entrance *f*, and over said extension I place a hood, H, connected with the box A, said hood serving to protect the entrance *f* from the weather. The hood may be made removable, to facilitate the transportation of the hive.

B B represent supplemental hives or surplus-honey boxes detachably connected to the exterior vertical sides of the main hive A, with which latter they communicate by passages *b* at the base of the main hive. The circulation of air through the supplemental hives is produced by ports *c* in the upper part of the sides of the main hive and ports *e* in the upper part of the supplemental hives, as illustrated in Fig. 2 of the drawings. A vertical partition, *d*, near the side of the supplemental hive, causes the current of air to pass from the port *c* down between the comb-frames I in the supplemental hive, and thence upward at the outer side of the partition *d*, and out through the port *e*, as represented by arrows in Fig. 2 of the drawings. These supplemental hives are employed whenever it is found that the increase of the colony requires more room.

In the winter the supplemental hives B B can be either removed or packed with straw to keep the main hive warm.

I do not claim, broadly, a bee-hive provided with a removable partition for separating the swarm into two colonies, or merging two colonies into one, as I am aware that the same is not new; but

What I do claim as my invention is—

1. The combination, with a hive, A, having a removable central partition, P, of the removable cases R, having comb-frames I and ventilators *a*, and the surplus-honey boxes or supplemental hives B, upon the sides of the main hive and communicating therewith at the bottom in proximity to the entrances, as set forth.

2. The combination, with a hive having removable partition P, removable cases R, hoods H, and supplemental hives B, of the hinged double bottom C C, substantially as set forth.

In testimony whereof I have hereunto signed my name and affixed my seal, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 30th day of March, 1885.

WILLIAM GROFF. [L. S.]

Witnesses:

FREDERICK H. GIBBS,

C. H. DUELL.