No. 780,385. PATENTED JAN. 17, 1905.

A. SIEBERT.

AIR COOLING APPARATUS.

APPLICATION FILED JUNE 2, 1903.

2 SHEETS—SHEET 1.

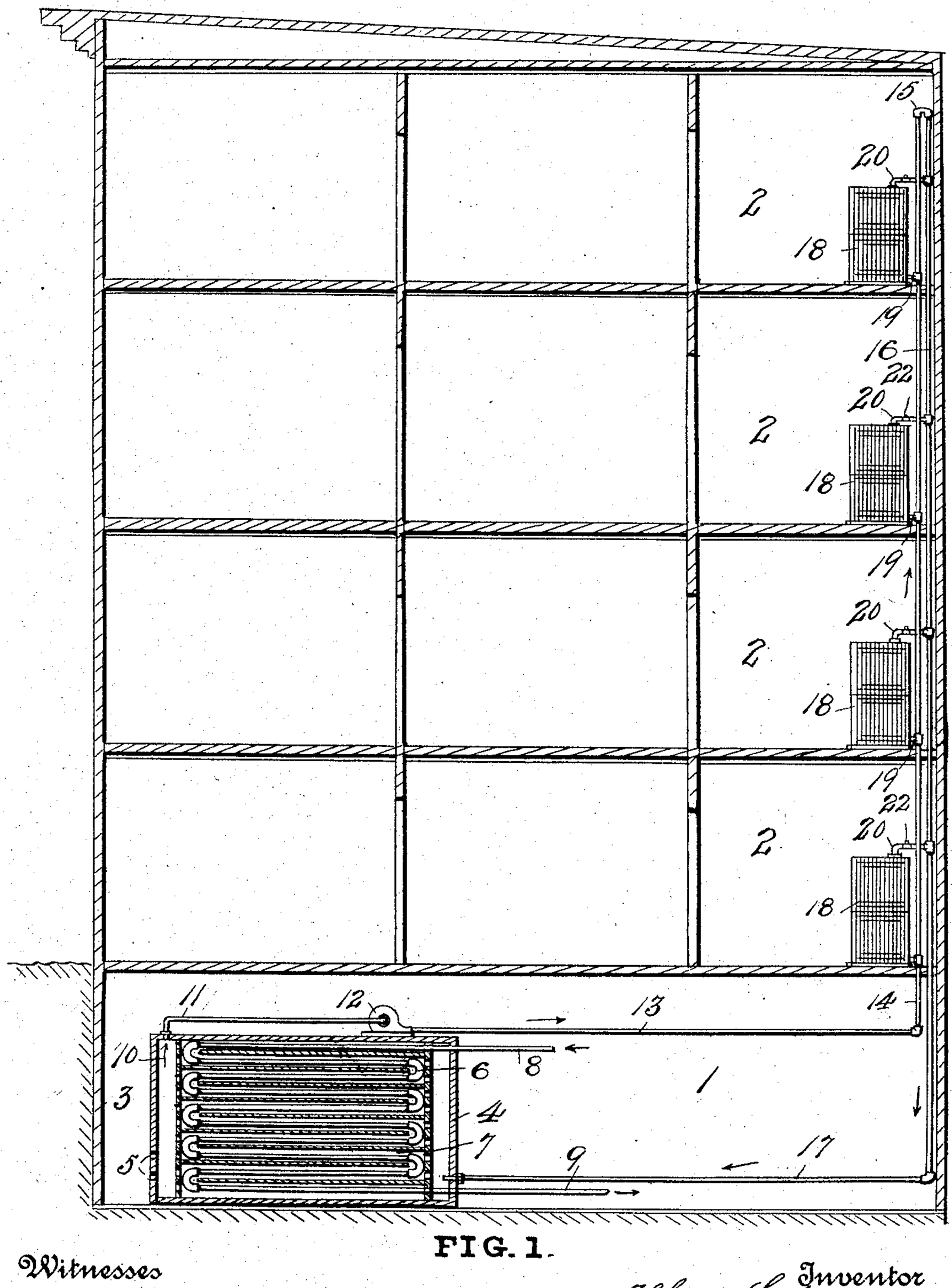

FIG. 1.

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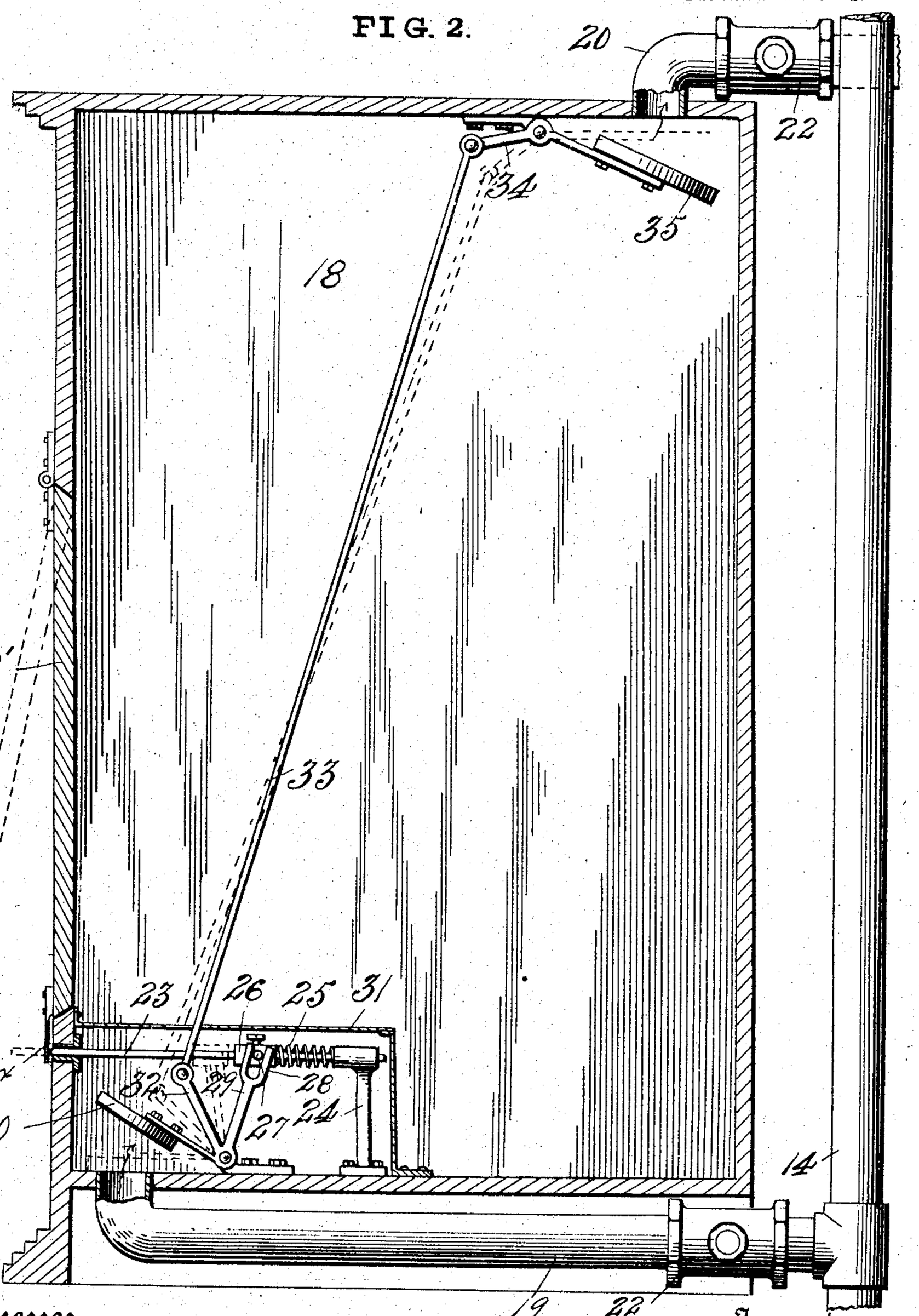
FIG. 2.



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UNITED STATES PATENT OFFICE.

ALFRED SIEBERT, OF ST. LOUIS, MISSOURI.

AIR-COOLING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 780,385, dated January 17, 1905.

Application filed June 2, 1903. Serial No. 159,727.

To all whom it may concern:

Be it known that I, ALFRED SIEBERT, a citizen of the United States, residing at St. Louis, in the county of St. Louis and State of Missouri, have invented certain new and useful Improvements in Air-Cooling Apparatus, of which the following is a specification.

My invention relates to improvements in air-cooling apparatus; and one object of my invention is the provision of an apparatus particularly useful in a house, hotel, or apartment which will supply cold air for the purpose of cooling the rooms or chambers or which may be used to keep food or provisions in a cold and fresh condition, and thus serve the twofold purpose of a cold-storage or refrigerating box, as well as an air-cooling means for the rooms or chambers.

Another object of my invention is the provision of an air-cooling apparatus which will insure the proper feeding or supply of cold air to all parts of the apparatus and which can be perfectly controlled with reference to the supply of air or to the cutting off of said supply, as may be found desirable and convenient.

Another object of my invention is the provision of an air-cooling apparatus which can be installed at a comparatively small price, which cannot possibly get out of order by reason of its simplicity and durability, and which will be thoroughly efficient and practical in every particular.

With these objects in view my invention consists of an air-cooling apparatus embodying novel features of construction and combination of parts substantially as disclosed herein.

In order that the details of construction and the operation of my apparatus may be fully understood and its many advantages be fully appreciated, I invite attention to the accompanying drawings, showing an apparatus constructed in accordance with and embodying my invention.

Figure 1 represents a sectional view of a building or structure equipped with my air-cooling apparatus, the apparatus being shown partly in section and in side elevation; and Fig. 2 represents a vertical central sectional view of one of the cold-air boxes or closets.

In the drawings the numeral 1 designates the cellar of the structure, and 2 designates the rooms or chambers above said cellar and in connection with which I employ my apparatus. In the cellar I place the air-cooling or refrigerating apparatus 3, which comprises the casing or housing 4 and the cooling-coil 6. The air is sucked out of the cooling-chamber 5 by a blower or exhauster through pipe 11 and discharged in the pipe 13 and pipe 14, and finally into the different boxes through pipes 19. The air leaves again the boxes through pipes 20, 16, and 17 and enters air-cooling box-chamber 4, passes over cooling-coils into chamber 5, which is a collecting-chamber, and returns again into the boxes, as before described. The cooling medium enters the coil 6 through pipe 8 and leaves it by pipe 9. The cooling medium may be either a gas or brine, chlorid of calcium, or water, the latter if a temperature much above 32° is required. The cooling of the medium is done by any suitable refrigerating-machine. Within each of the chambers or rooms is arranged a box or casing or closet 18, which is placed in communication with the supply-pipe by means of the short pipes 19 and at its upper portion has communication with the return-pipe by means of the short pipes 20, and in said pipes 19 and 20 I provide suitable controlling cocks or valves 22, the purpose of which is to regulate the passage of cold air or to shut it off entirely. From this construction it will be observed that the cold air from the supply-pipe enters the boxes or closets at their lower portion and near their forward ends and supplies the air to the entire box and that the air after circulating in the box passes out at its top and rear portion through the short pipe to the return-pipe.

I provide each of the closets or boxes with a hinged access-door 18′, the lower portion of which doors carry a plate 18×, which plates engage when closed the rods 23, which rods move in posts 24, and around the rods are coiled springs 25, which bear against sleeves 26, said sleeves carrying a pin 27, which en-

gages a fork 28 on the pivoted right-angle lever 29, carrying a valve 30, and said mechanism is arranged in a suitable casing 31, and to said angle-lever is also secured an arm 32, to the upper end of which is connected the lower end of a rod 33, which rod extends throughout the entire length of the box and at its upper end is connected to the outer end of the pivoted angle-lever 34, which lever 34 carries a valve 35.

When the parts are in normal position and the door of the box is closed, the parts are in the position shown in Fig. 2, both the inlet and outlet openings being open or free and the upper and lower valves being away from said opening; but instantly upon the door of the box being opened the spring-actuated rod moves outward, closing the upper and lower valves and shutting off the supply and outlet of air to said box, the parts when the door is open assuming the positions shown in dotted lines, as is evident.

From the foregoing description, taken in connection with the drawings, the operation of my apparatus will be readily understood, and it will be apparent that the air is supplied in a cold condition from the cooling apparatus to the entire series of boxes and is returned to the apparatus to be again subjected to the refrigeration, thus insuring a continuous supply of cold air, and also that the opening of the door of the box shuts off the supply of air to the box, or the door may be opened only slightly to permit the air to pass from the box to the room for the purpose of cooling the atmosphere in the room.

It is evident that my apparatus may be used for the purpose of cooling the rooms or chambers or for keeping food in a cold or fresh condition and that it will be thoroughly efficient for both conditions.

I claim—

In an air-cooling apparatus, the combination of a casing, cooling-medium-supply means in said casing, an air-supply pipe leading from said casing, means for forcing the cool air through the supply-pipe, a series of cold-air boxes communicating with said cold-air-supply pipe, one upper and lower valve in each box to control the air-supply, a rod connecting said valves, an arm on the lower valve, a sliding spring-controlled rod engaging said arm, and a door on the box engaging said rod to hold the valves open, said spring closing the valves when the door is opened.

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

ALFRED SIEBERT.

Witnesses:
P. L. ZACHRISS,
WM. NEUSTEDT.