

(No Model.)

2 Sheets—Sheet 1.

C. J. BERGSTRÖM.
DRY HOUSE FOR LUMBER, &c.

No. 603,837.

Patented May 10, 1898.

FIG:1.

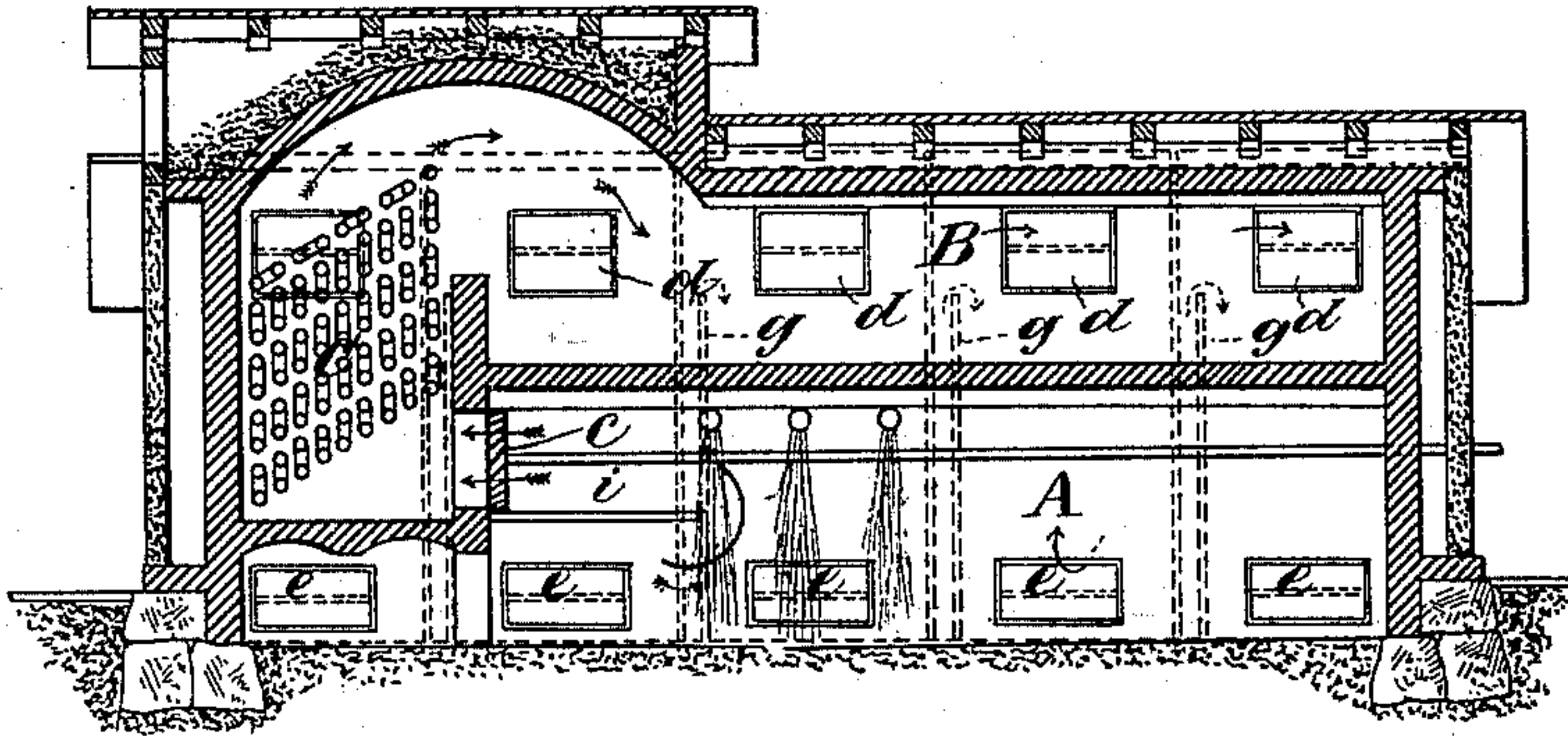
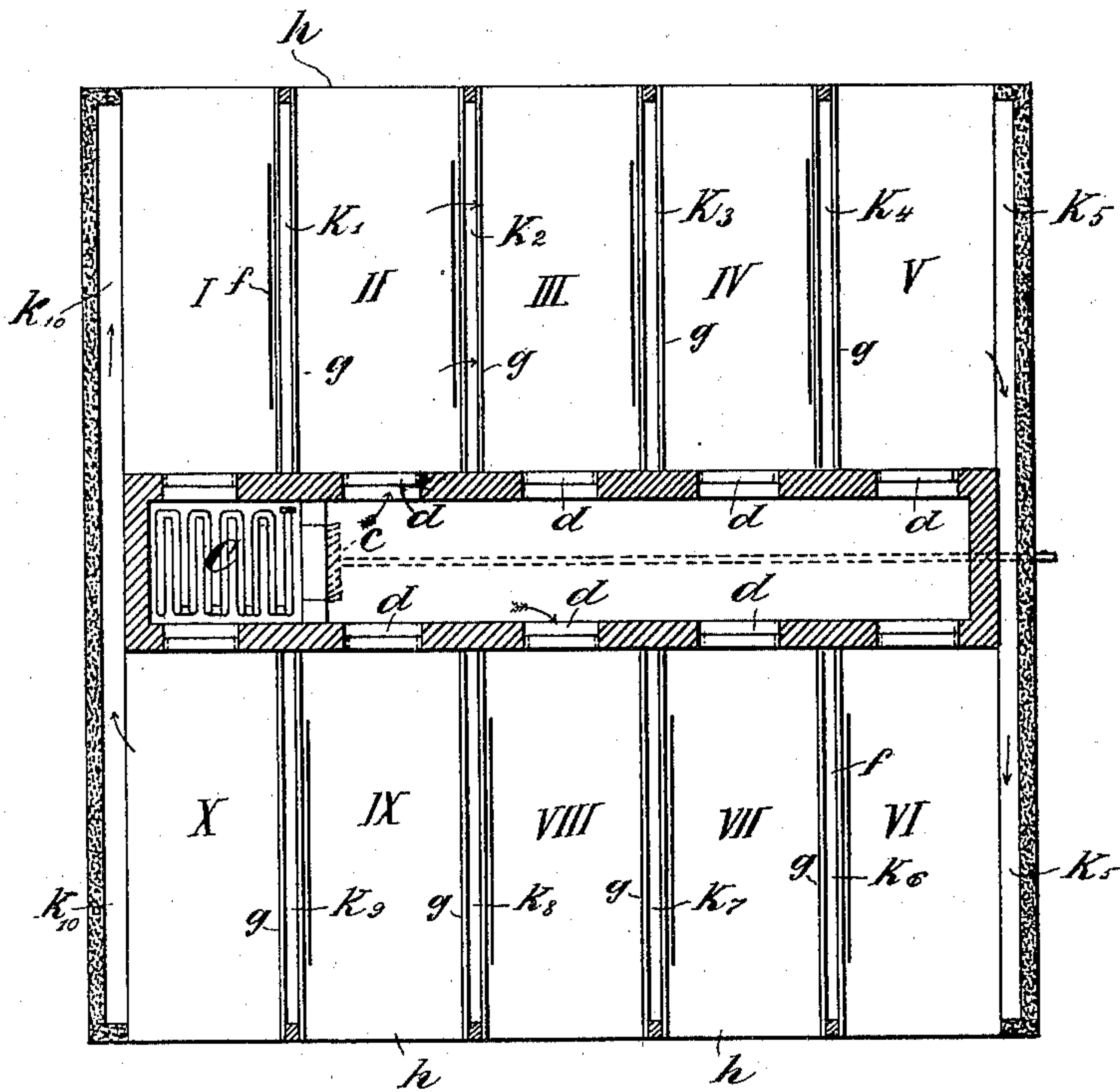


FIG:2.



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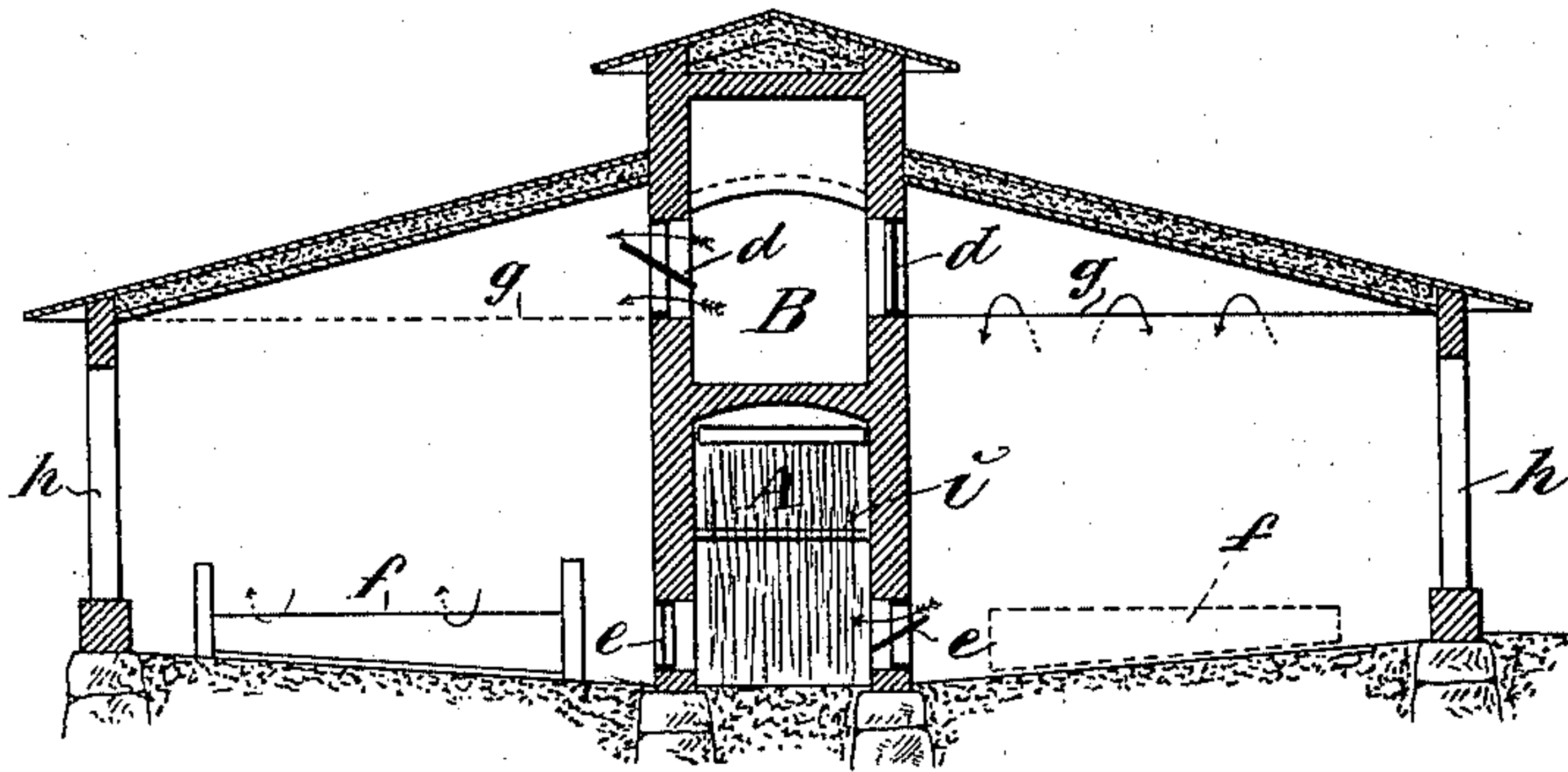
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FIG. 3.



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CARL JOHAN BERGSTRÖM, OF FINSHYTTAN, SWEDEN.

DRY-HOUSE FOR LUMBER, &c.

SPECIFICATION forming part of Letters Patent No. 603,837, dated May 10, 1898.

Application filed August 18, 1897. Serial No. 648,621. (No model.)

To all whom it may concern:

Be it known that I, CARL JOHAN BERGSTRÖM, engineer, a subject of the King of Sweden and Norway, and a resident of Finshyttan, in the Kingdom of Sweden, have invented certain new and useful Improvements in Dry-Houses for Lumber, &c., of which the following is a specification, reference being had therein to the accompanying drawings.

10 The present invention relates to some improvements in such dry-houses as consist of several drying-rooms that can be placed in communication with one another, as well as with a room containing a heating apparatus, the heating-room, whence the air is conducted
15 into the drying-rooms, and with a room containing a condenser arrangement, into which room the moist air from the drying-rooms is introduced and from which said air, after the
20 moisture contained in it has been condensed and removed, is introduced into the heating-room to be subsequently returned to and conducted through the drying-rooms. The air is conducted from the top downward through
25 each drying-room and, if desired, from one room to an adjoining one. In such dry-houses the drying-rooms are arranged in a circle around a central room, and the corners at the periphery of the rooms being unsuited for
30 the piling of lumber are cut off by means of walls, so as to form triangular chambers between the drying-rooms, which chambers serve as passages of communication between adjoining drying-rooms. A disadvantage of
35 this arrangement is that the air in its course through the passages mentioned, which become excessively large, loses much of its heat and that as a result the efficiency of the dry-house is reduced. For conducting the air
40 from the drying-rooms to the condenser-room, which adjoins the heating-room, the latter is surrounded by or there is arranged underneath it a passage connecting with the condenser-room and communicating with the
45 drying-rooms by means of apertures that can be closed up.

The object of the present invention is to increase the efficiency of the dry-house above referred to and to simplify its construction.

50 Figure 1 represents a longitudinal vertical section of a dry-house arranged in accordance with this invention. Figs. 2 and 3 show, re-

spectively, a horizontal and a transverse section of the dry-house.

The drying-rooms I II III according to this invention are arranged each side of an ob- 55 long central room B and can be placed in communication with the latter by means of adjustable openings *d*. The condenser-room A lies underneath the central room B, and
60 consequently the drying-rooms I II III can be placed in direct communication with it (the condenser-room) without the aid of passages by means of adjustable apertures *e* in the wall between the drying-rooms and the con- 65 denser-room. The apparatus C for heating the air is located at one end of the room B—the hot-air passage. The air of the condenser-room is, as usual, driven through the heating apparatus by means of a fan *c*. In order to
70 allow of conducting the air from one drying-room—I, for instance—to the adjoining room II, an adjustable opening *f* is made, as usual, at the lower part of the partition between said rooms. In order to conduct the air to the 75 upper portion of the room II, all that is required according to this invention is to arrange in the latter room, near the partition mentioned, a screen or wall *g*, which does not reach clear up to the ceiling of said room. 80 Such a screen or wall *g* is located at each partition between two adjoining drying-rooms. For the conduction of the air from one of the rooms at the ends of the central room to the other, passages $K^5 K^{10}$ are provided. The pas- 85 sages $K^7 K^4$ and $K^6 K^9$ between the partitions and the screens *g* may be made very narrow, with a view to making their bounding-wall at the outside of the dry-house very small, the result of which is that the radiation of heat 90 through said wall will be very small. The air, therefore, in flowing from one room to an adjoining one will retain nearly all its heat, and the efficiency of the dry-house is thereby materially increased. The lumber is intro- 95 duced in the drying-rooms through doors *h*, for instance, and is placed on horses.

The drying or seasoning operation is carried on in the same manner as in the older dry- 100 houses. The air may either be conducted directly from the room B into each of the drying-rooms and then out to the condenser-room A or it may be led into one of the drying-rooms, then through one or more of the

adjoining rooms, and finally to the condenser-room. The condensation may be accomplished by means of water issuing from sprinkler-pipes or by means of a surface condenser. In order to prevent the air from passing from the drying-rooms adjoining the heating apparatus C directly to the fan *c*, a screen *i*, of corrugated iron or equally-serviceable material, is provided, which causes the air to flow
 10 under the sprinkler-pipes.

By locating the condenser-room underneath the room B it is possible to lead the air directly from the drying-rooms to the condenser-room without the aid of interposed
 15 passages, as used in the dry-houses of this kind previously employed. By arranging the rooms A and B as described above and by grouping the drying-rooms each side of them the dry-house is materially simplified, and
 20 consequently it will be cheaper to construct than those heretofore used. The latter arrangement also allows of adding more rooms to the dry-house, when desired, by building on an addition or of reducing the number of
 25 drying-rooms of a dry-house when necessary, this not being possible in dry-houses having their drying-rooms arranged in a circle.

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

1. A dry-house for lumber and the like, having a hot-air passage or room B and drying-rooms arranged at the sides of said passage with means of communication between
 35 said rooms and between each of them and said passage, and having also a condensing-room A for the moisture in the air coming from the drying-rooms, said condensing-room being situated alongside of the several drying-

rooms and having controllable communication therewith, whereby the condensing-room may be put in direct communication with the several drying-rooms, substantially as set forth.

2. A dry-house for lumber and the like 45 comprising two series of drying-rooms situated at opposite sides of and abutting on a central space which is divided by a floor forming a hot-air passage B, above, and a condensing-room A, below, apertures *d*, connecting the passage B with each of the drying-rooms, apertures *e* connecting the room A with each of the drying-rooms, means for closing said apertures at will, a heater C, in the passage between the drying-rooms, means for
 50 causing a circulation of the air in the dry-house and means for condensing the moisture in the air, substantially as set forth.

3. A dry-house having a plurality of drying-rooms arranged side by side and separated 60 by partitions each having an opening *f* near its bottom for the passage of air and a partition-screen *g* near said partition, which screen extends from the floor up part way to the ceiling of the room, whereby a flue or conduit is 65 formed for the air coming in from the bottom of one room, said air being thus compelled to rise through said flue and flow over into the upper part of the adjacent room, substantially as set forth. 70

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

CARL JOHAN BERGSTRÖM.

Witnesses:

E. HERMANSSON,
 H. B. OHLSSON.