

No. 859,954.

PATENTED JULY 16, 1907.

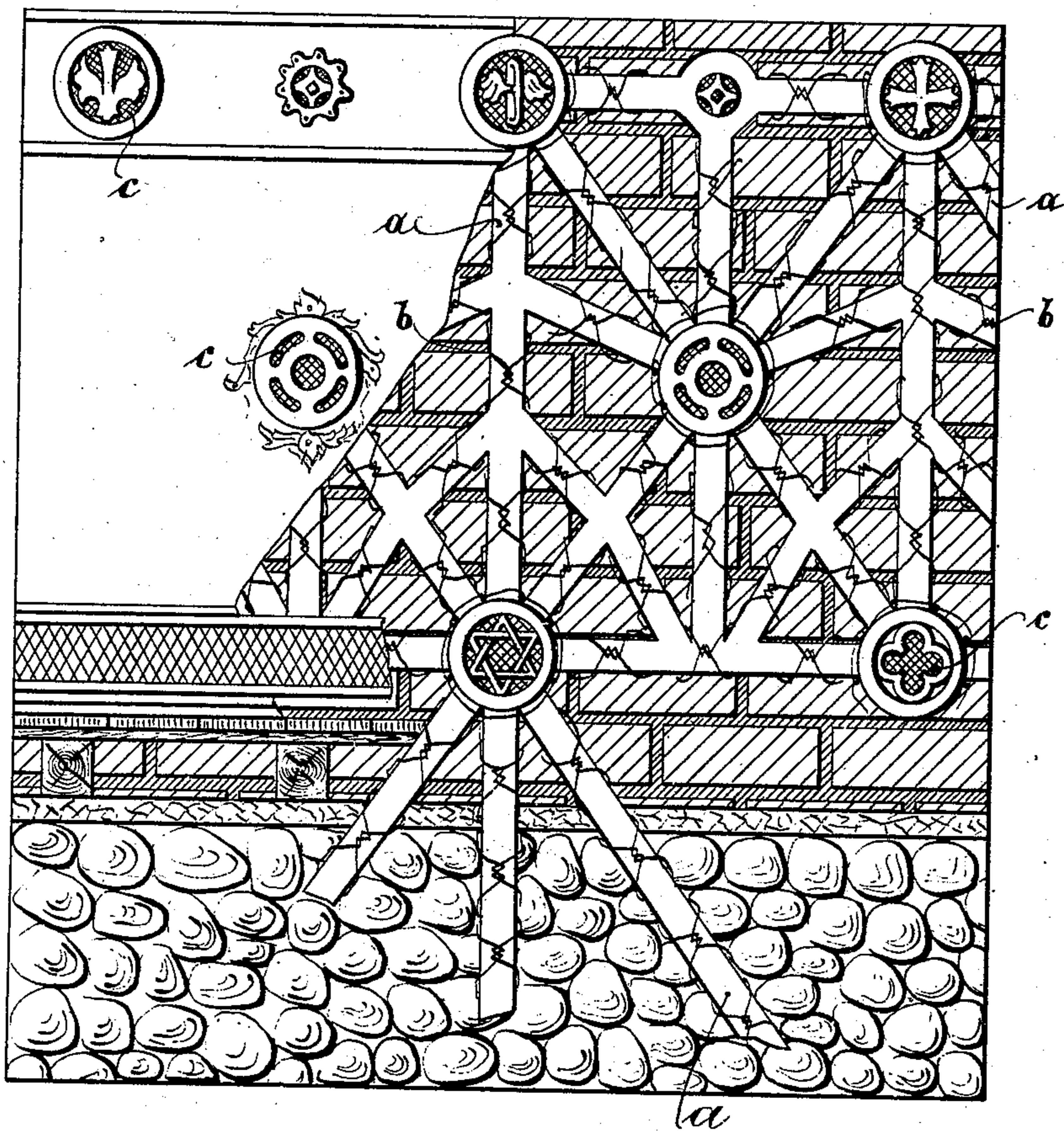
M. LESER.

CONSTRUCTION FOR DRYING WALLS AND NEUTRALIZING SALTPETER
THEREIN.

APPLICATION FILED AUG. 16, 1906.

2 SHEETS—SHEET 1.

Fig. 1.



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CONSTRUCTION FOR DRYING WALLS AND NEUTRALIZING SALTPETER
THEREIN.

APPLICATION FILED AUG. 10, 1906.

2 SHEETS—SHEET 2.

Fig. 2.

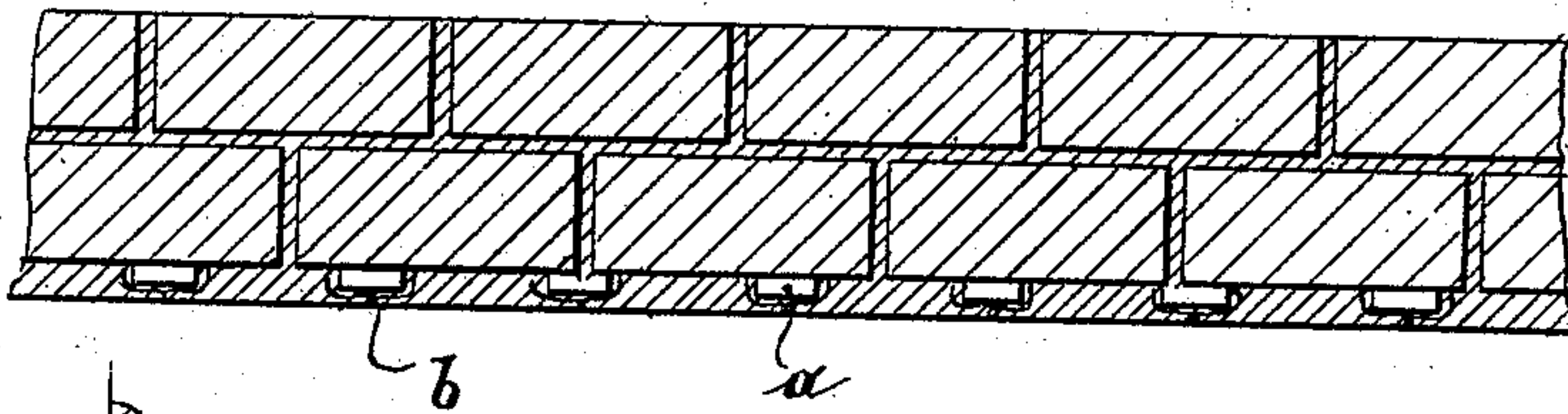


Fig. 3.

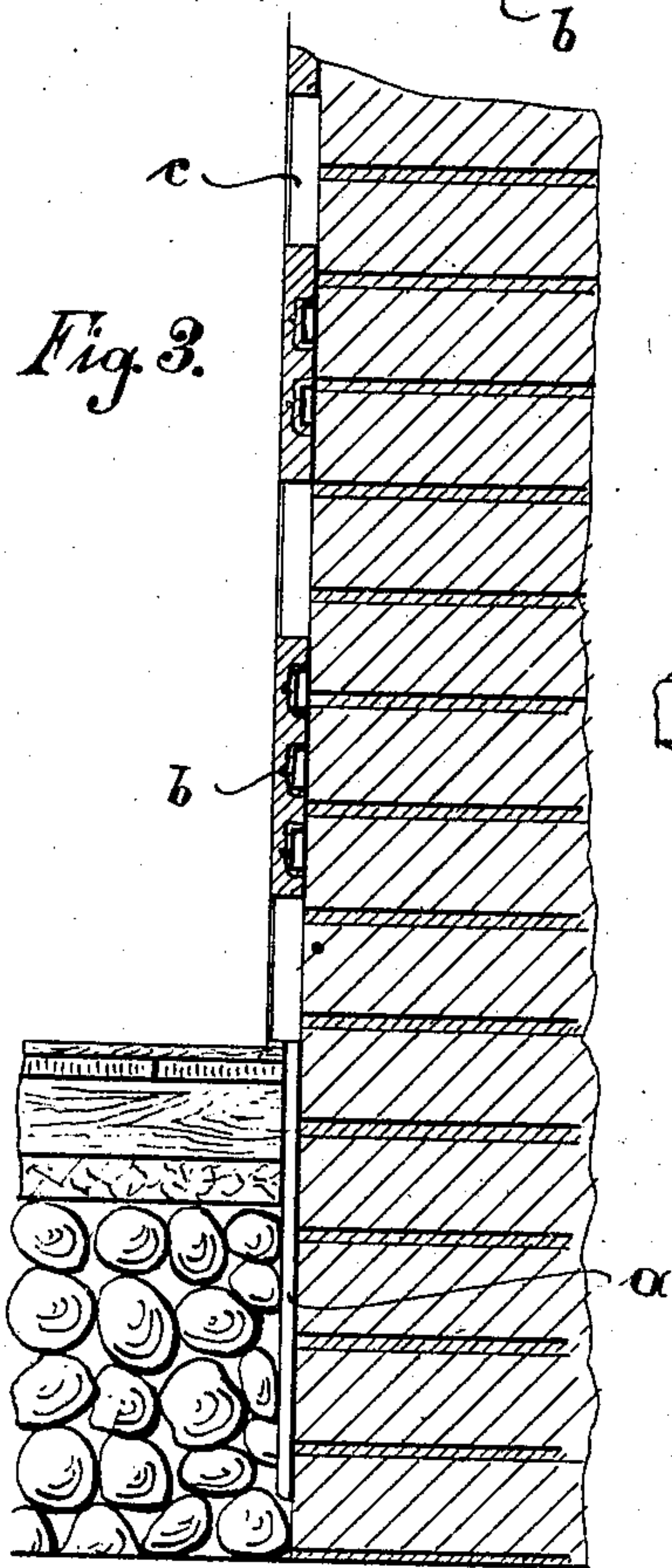
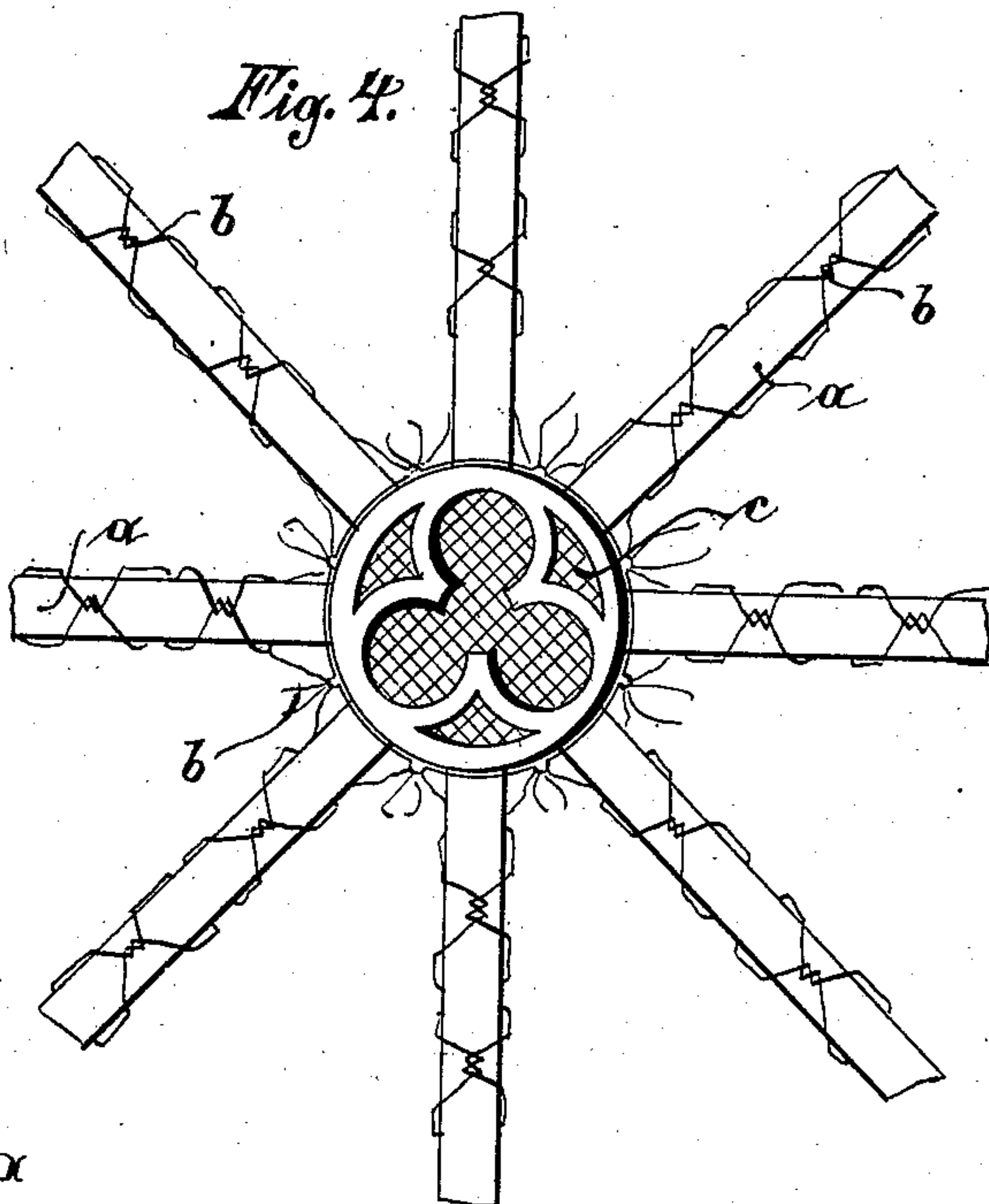


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

MAX LESER, OF MUNICH, GERMANY.

CONSTRUCTION FOR DRYING WALLS AND NEUTRALIZING SALTPETER THEREIN.

No. 859,954.

Specification of Letters Patent.

Patented July 16, 1907.

Application filed August 16, 1906. Serial No. 330,930.

To all whom it may concern:

Be it known that I, MAX LESER, a subject of the King of Bavaria, residing at Munich, Bavaria, have invented a certain new and useful Construction for the
5 Drying of Walls and Neutralizing Saltpeter Therein, of which the following is a specification.

Various attempts have been made to secure the dryness of damp walls, for instance by means of insulating layers or split pipes arranged for the purpose of con-
10 ducting away the moisture, and by means of air-passages provided between the walls and the soil. These devices do not, however, afford a radical and permanent remedy for dampness, more particularly in the winter, and they are totally unadapted to remove so-
15 called "rot" and saltpeter. The present invention, on the other hand, affords a highly effective remedy by means of which walls can not only be rendered permanently and completely dry, but by which "rot" is also completely eradicated. This is effected with
20 the aid of air-conduits, but the action of the latter is assisted by special means, by which an electrical effect is produced. For this purpose the air-conduits are constructed of metal, and wire of a different metal is wound around the said conduits. By this means
25 cataphoretic and chemical action is produced, owing to the electric currents which are generated, more particularly in the presence of moisture, and the drying of the walls is thus accelerated.

The invention is illustrated in the annexed drawing,
30 in which

Figure 1 represents a wall in which several examples of the improved system are combined. Fig. 2 is a cross-section of a wall, viewed from above, and Fig. 3 a vertical section. Fig. 4 illustrates part of the
35 construction on a larger scale.

The construction comprises a system of half open shallow troughs *a* of light sheet-metal, preferably zinc of any suitable shape of cross section adapted to be placed against the surface of a wall with their open
40 faces against the latter.

Referring to Fig. 4, it will be seen that wire *b* preferably of copper is twisted or wound round the troughs *a*; for this purpose a net-work of wire may be prepared before it is placed on the troughs, or the wire may be
45 merely wound round the latter.

At suitable parts of the trough-system air-inlet apertures *c* are provided, for example in the form of ornamental gratings or perforated plates. By this means a continuous and energetic circulation of air is ob-
50 tained, extending down to the base of the wall. The wire *b* is preferably of copper, and the gratings, plates or the like at the air-inlet apertures are preferably of the same metal, or else a net-work of copper-wire is placed behind each inlet-aperture or group of aper-
55 tures and connected to the adjacent copper wire *b*.

The wire *b* and troughs *a* arranged in the manner described serve a double purpose. They assist in retaining and supporting the plaster with which the wall is coated, and being of different metals produce more-
over cataphoretic and electro-chemical effects on the
60 wall and plaster. This latter results is due to galvanoelectric action, which is for example, sufficient to prevent the formation of hoar-frost and the freezing of moisture in the troughs in winter, and the chemical effects of which so assist the drying process that prac-
65 tically any damp wall, can by the means indicated be rendered perfectly dry in its entire thickness, and to the full extent of the height to which the moisture was found to extend, the recurrence of dampness being ef-
70 fectually prevented, and the accumulation of moisture being entirely avoided in the case of new walls provided at the time of their construction with the arrangement described.

The number of air-troughs provided must be in proportion to the dampness of the wall and the amount of
75 saltpeter present. In the case of brick-walls the troughs are alined with the seams of mortar between the bricks, and in the case of quarry-stone or sandstone walls the troughs are also placed across the joints.

By providing a sufficient number of air-apertures an
80 energetic circulation of air is obtained, this circulation being considerably more powerful than if the troughs merely communicate with the atmosphere at their upper ends. The powerful air-currents combined
85 with the cataphoretic and electro-chemical action dry the walls much more rapidly, effectively and permanently than any arrangement or process hitherto known.

In the case of walls containing saltpeter the troughs may be used for the distribution of suitable prepara-
90 tions adapted to destroy saltpeter, such preparations being for example injected in the form of powder through the air-apertures *c*.

The plates, trellis-work, grating or the like may be of ornamental design suited to the character of the
95 room or building of which the wall forms part, and may be painted after the completion of the structure, so as to form, for example, portions of a continuous frieze or the like.

To increase the efficiency of the arrangement, and to
100 deflect the moisture which tends to take the place of the moisture removed, the air-troughs are preferably caused to extend to a considerable depth, the base of the wall being surrounded by coarse stones.

In the case of ground-floor passages and the like it is
105 in some cases necessary to dig up the ground adjacent the inside of the wall, in order to introduce the stones. The air-troughs leading from the lower air-apertures are then caused to terminate in the bed of stones. If a
110 similar arrangement is necessary for the walls of rooms,

the outer wall is also provided with a bed of stones which is caused to communicate by means of horizontal ducts with a bed of stones at the base of the inner wall.

What I claim as my invention and desire to secure
5 by Letters Patent of the United States is:—

1. The combination with a wall, of a construction applied thereto consisting of a trellis of half open sheet metal troughs the open faces of which are applied to the
10 wall and wire work of a different metal wound about said troughs, said metals being respectively electro-positive and electro-negative with regard to each other.

2. The combination with a wall, of a construction applied thereto consisting of a trellis of half open sheet metal troughs the open faces of which are applied to the
15 wall, inlet bosses at the points of intersection of said troughs and wire work of a different metal from the troughs wound about said troughs said metals being respectively electro-positive and electro-negative with regard to each other.

3. The combination with a wall, of a construction applied to the face thereof consisting of a trellis of half open sheet metal troughs the open faces of which are applied to the wall, said metal troughs having exterior air inlets
20 wire work of a different metal wound about said troughs and a plaster coating covering these parts with the exception of the inlets said metals being respectively electro-positive and electro-negative with regard to each other.
25

4. The combination with a wall, of a construction applied to the face thereof consisting of a trellis of half open sheet metal troughs the open faces of which are applied to the wall, inlet bosses at the points of intersection of said troughs, wire work of a different metal wound about said troughs and a plaster coating covering the whole with the exception of the inlet bosses said metals being respectively electro-positive and electro-negative
30 with regard to each other.
35

5. The combination with a wall of a construction applied to the face thereof consisting of a trellis of half open sheet metal troughs the open faces of which are applied to the wall, inlet bosses at the points of intersection of said troughs, wire work of a different metal wound about said troughs, a plaster coating covering the whole with the exception of the inlet bosses and an underground bed of loose stone at the base of the wall into which the lower troughs project said metals being respectively
40 electro-positive and electro-negative with regard to each other.
45

In witness whereof I have signed this specification in the presence of two witnesses.

MAX LESER.

Witnesses:

ULYSSES J. BYWATER,
LOUIS F. MUELLER.