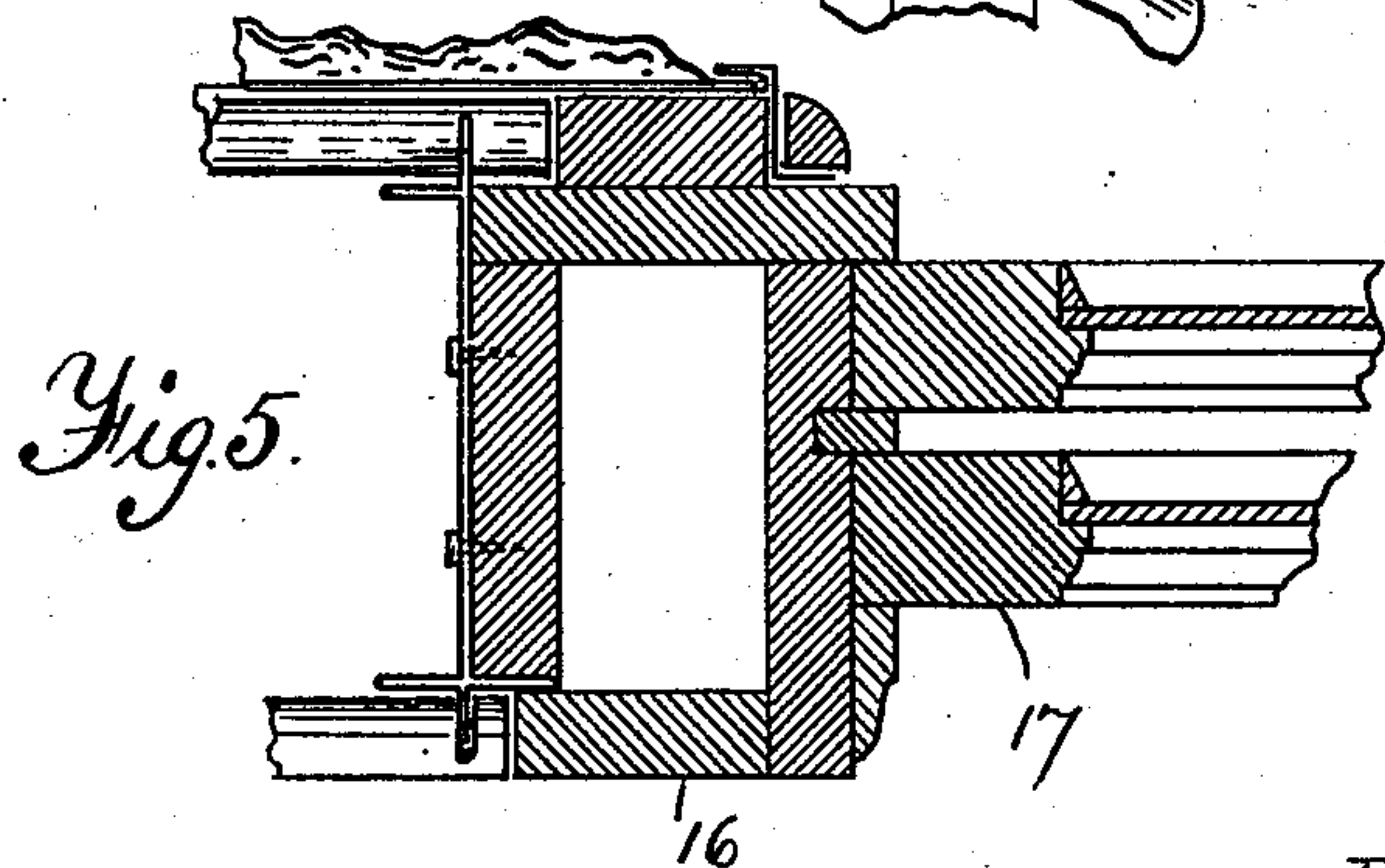
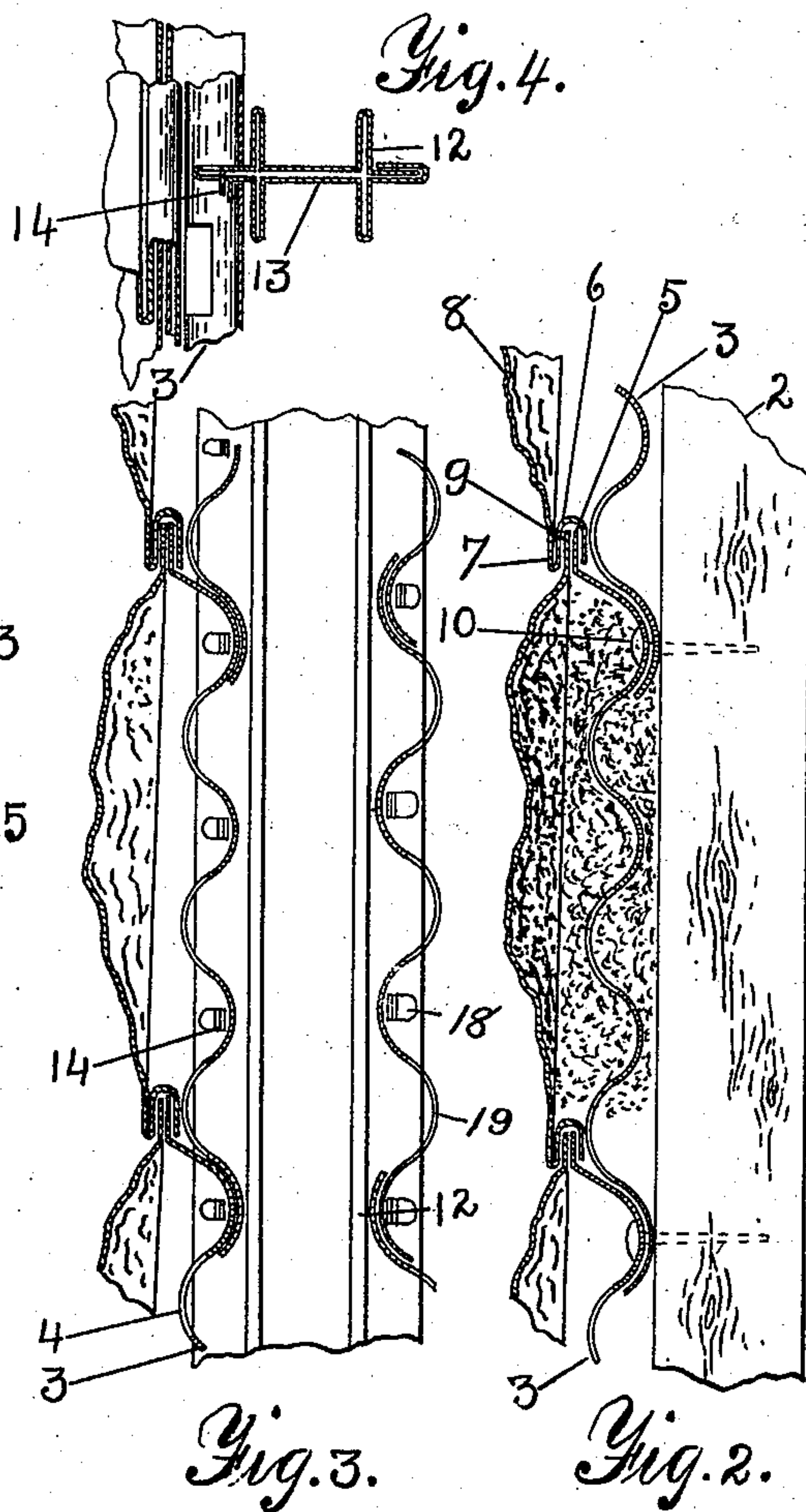
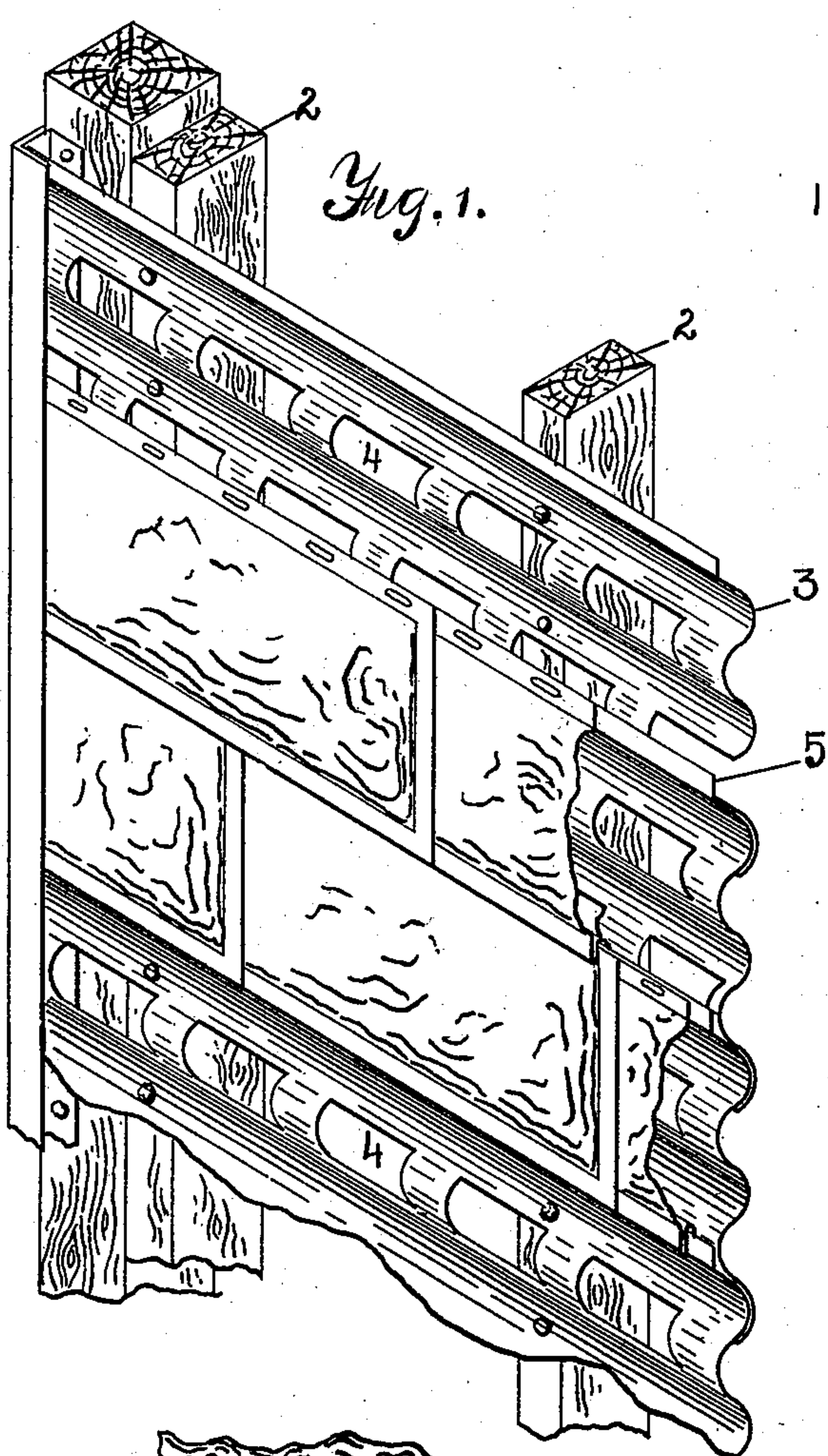


(No Model.)

P. A. DESLAURIERS.
FIREPROOF BUILDING WALL.

No. 504,415.

Patented Sept. 5, 1893.



Witnesses.

Henry Nelson.

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UNITED STATES PATENT OFFICE.

PHILIPPE A. DESLAURIERS, OF ST. PAUL, MINNESOTA.

FIREPROOF BUILDING-WALL.

SPECIFICATION forming part of Letters Patent No. 504,415, dated September 5, 1893.

Application filed July 9, 1892. Serial No. 439,474. (No model.)

To all whom it may concern:

Be it known that I, PHILIPPE A. DESLAURIERS, of St. Paul, Ramsey county, Minnesota, have invented certain Improvements in Fireproof Building-Walls, of which the following is a specification.

My invention relates to improvements in the construction of fire proof building walls, its object being to provide a wall which shall be inexpensive, easily constructed, and thoroughly fire proof, having either wooden or metal framework.

To this end my invention consists in securing upon the faces of the studs or framework, a sheathing of perforated sheets of corrugated iron interlocking at their joints, the upper horizontal edges of the sections serving as means for attaching an ornamental sheet metal covering thereto. This covering is preferably formed of interlocking sheet metal siding plates having ornamented surfaces, the joints being formed of a double fold on one receiving and engaging the edge of the other, the fold also engaging the projecting edge of the corrugated sheet. The space between the corrugated iron and siding plates is then filled in with some non-combustible material, preferably asbestos cement, the same being applied to the inner surface of the corrugated iron so as to make a smooth wall, the material passing through the perforations so as to fill the space between the corrugated iron and siding plates, thus making a solid wall. Any desired cover or finish can be placed upon the inner face of the studs or frame work.

My invention further consists in the specific construction and combination hereinafter described and particularly pointed out in the claims.

In the accompanying drawings forming part of this specification, Figure 1 is a sectional, isometrical projection of a portion of a wall, constructed in accordance with my invention. Fig. 2 is a vertical section thereof, showing the manner of securing the corrugated iron to the studs, and the siding plates to the corrugated iron, also showing the cement filling between them. Fig. 3 is a similar section showing a metallic stud, and the manner of securing the corrugated iron thereto. Fig. 4 is a horizontal section of the same, and Fig.

5 is a horizontal section of a modified construction of stud, adapted to fit to the frame of a door or window.

In the drawings 2 represents the vertical wooden studs forming the framework of the structure.

3 are sheets of corrugated iron with the corrugations running horizontally, and provided with perforations 4 in the concave portions of the sheet, looking from the outside. The upper edge 5 of the section stands slightly out from the section above, to allow the edge 6, of the fold 7, of the siding plate 8 to fit back of the same, and between it and the adjacent section. The sections of corrugated metal are secured to the studs by means of nails 10 driven through the overlapping edges of the section into the stud. The upper edge 9 of the siding plate fits against the edge 5 of the section of corrugated metal, and both are held firmly in the fold of the siding plate above. After the plates and sections are thus secured to the framework, the space between them is filled in with asbestos cement or other suitable material, and the inner face of the corrugated iron covered by a plane surface coating, making a solid and durable fire proof wall. Where it is desired to make the structure entirely of non-combustible material, the studs may also be formed of iron, as shown in Figs. 3, 4 and 5. I prefer to construct the stud as shown, of sheet metal having six ribs or folds 12, the stud being placed with its greatest width or central web 13, at right angles with the wall. The outer rib 12 is cut through to form tongues 14, which may be bent out to engage and hold the sections of corrugated metal thereon as shown in Fig. 3, the sections being provided with vertical slots cutting across the inner corrugations so as to fit over the rib of the stud. The siding plate is secured to the corrugated iron in the manner above described, and the space between filled in with cement. Where a stud abuts against the framework 16 of the door or window 17, it is formed with one or both the ribs on the side next the frame removed, the web of the stud being fastened directly to the frame, as shown in Fig. 5. To the inside of the studs may also be secured similar corrugated sheet metal 18 by means of the lips 19

serving as lath to receive a mortar or cement coating.

I claim—

1. A building wall comprising in combination, the frame, the corrugated sheet metal sheathing, the sheet metal siding secured upon said sheathing, and a non-combustible filling between the same, substantially as described.

2. The combination of the frame, the corrugated sheet metal sheathing secured thereon, the projections upon said sheathing, and the siding plates secured to said projections, substantially as described.

3. The combination with the frame, of the perforate sections of corrugated sheet metal sheathing secured thereon, with their upper edges overlapping the sections above, and the sheet metal siding plates interlocked with said edges, substantially as described.

4. The combination with the studs, of the sections of perforate, corrugated sheet metal secured on the face thereof, with their upper edges overlapping the sections above, the interlocking siding plates engaging and supported by said edges, and the filling between said siding plates and sections of corrugated sheet metal, substantially as described.

5. The combination of the studs, the perforate corrugated metallic sheathing, the siding plates secured to said sheathing, the non-combustible filling between, and the corrugated sheet metal lathing on the inner faces of said studs, substantially as described.

6. The metallic stud having lateral ribs separated by a central rib, both the central and lateral ribs being formed of a double thickness of metal and from a single piece by the metal which is bent upon itself, substantially as described.

7. The metal stud having a central rib and lateral ribs formed of folds of the metal, some of the ribs having tongues projecting laterally therefrom, substantially as and for the purposes described.

8. The combination of the sheet metal studs,

having ribs at right angles with each other, the corrugated sheet metal sheathing having grooves transverse of, and cutting the corrugations, adapted to fit over a rib on said stud, and means for securing the sheathing thereon, substantially as described.

9. The combination of the sheet metal stud having radiating ribs, formed by folding the metal upon itself, the corrugated metal sheathing having its corrugations notched to fit upon one of said ribs, and lips outturned from said rib engaging and securing said sheathing, substantially as described.

10. The combination with the frame, of perforate metallic sheathing secured upon the same, siding plates secured outside thereof, and a non-combustible filling between the siding plate and perforate sheathing, substantially as and for the purposes described.

11. The combination with the metallic studs, of perforate metallic sheathing secured upon the outer face thereof, siding plates secured outside of said sheathing, and a non combustible filling between said sheathing and siding plates substantially as described.

12. The combination of a frame, a perforate sheathing secured thereto, projections extending from the sheathing, siding plates secured to said projections, and a non combustible filling between the siding plates and the perforate sheathing, substantially as described.

13. The combination of a frame, a perforate sheathing secured thereto, siding plates secured outside said sheathing, a non combustible filling between said plates and sheathing and extending through the perforate sheathing, and a plastic coating applied to the said perforate sheathing on the opposite face to said filling, substantially as described.

In testimony whereof I have hereunto set my hand this 1st day of July, 1892.

PHILIPPE A. DESLAURIERS.

In presence of—

T. D. MERWIN,

H. S. JOHNSON.