(No Model.)

H. STURM.

TILE.

No. 483,180. Patented Sept. 27, 1892.

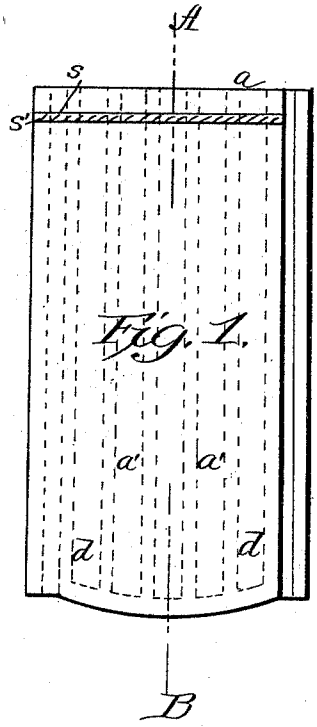


Fig. 1.

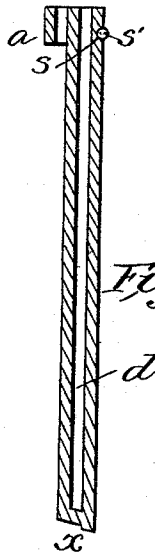


Fig. 3.

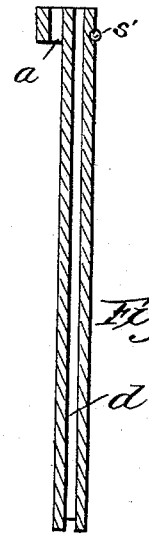


Fig. 5

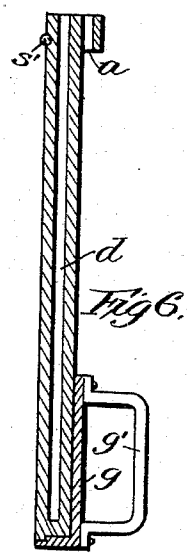
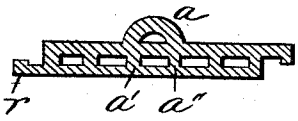


Fig 6.

Fig. 2.



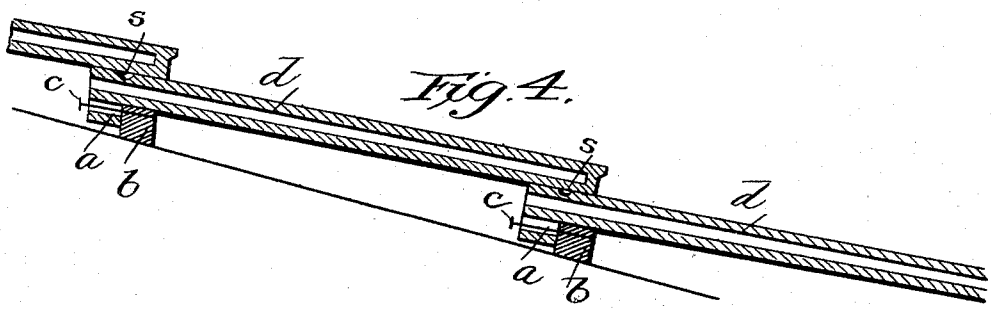


Fig. 4.

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UNITED STATES PATENT OFFICE.

HENRI STURM, OF PARIS, FRANCE.

TILE.

SPECIFICATION forming part of Letters Patent No. 483,180, dated September 27, 1892.

Application filed August 3, 1891. Serial No. 401,458. (No model.) Patented in France February 1891, No. 211,503; in Belgium February 23, 1891, No. 93,870, and in England March 3, 1891, No. 3,833.

To all whom it may concern:

Be it known that I, HENRI STURM, a citizen of the French Republic, and a resident of Paris, in said Republic, have invented certain new and useful Improvements in Tiles, (for which I have obtained Letters Patent in France February 18, 1891, No. 211,503; in Belgium February 23, 1891, No. 93,870, and in Great Britain March 3, 1891, No. 3,833,) of which the following is a full, clear, and exact description.

The object of my invention is to provide a flat hollow tile having a series of longitudinal interior canals or spaces which can be closed at their two extremities or at one of them only by lateral grooves which permit the longitudinal closing of one tile with its immediate lateral neighbor. The tile thus obtained is also provided on top and at its lower part with a hollow hook formed integral therewith, whereby it may be fastened to the roof and with an upper transverse groove to permit of obtaining the tightness of the roofing. Flat hollow tiles have already been formed provided with longitudinal canals or hollows to form a protective sheath of air against the too rapid heating or cooling off of structures; but until now it has not been able with the present means of manufacture to close these openings at their two ends or even at one of them.

In order to make my invention more clearly understood, I have shown in the accompanying drawings means for carrying the same into effect.

In the drawings, Figure 1 is a plan, and Fig. 2 is a transverse section, of a tile embodying my invention. Fig. 3 is a longitudinal section on line A B of Fig. 1. Fig. 4 represents several tiles joined together. Fig. 5 represents a tile with both ends of the canal open. Fig. 6 represents the mold used in the manufacture of these tiles.

My improved tile has a perfectly-regular thickness in all its parts, so that after burning, a flat straight tile is obtained whose jointing *e* and lapping *r* fit well into one another. An arch-shaped hook or projection *a* is formed at one end with an opening through it, the walls of the projection being in line with two of the ribs or divisions *a' a''* of the tile, as shown in Fig. 2, thus adding to the strength of the structure. This hollow hook, like the tile itself, is destined to fix all or a part of the tiles on the laths *b* by means of nails *c*, as shown in Fig. 4 of the drawings. The hollow parts *d* of these tiles are completely closed at the bottom, so that there can be no circulation of air.

My new hollow tiles are formed by a process very analogus to the one used to form hollow brick or in any suitable way. The lower ends of the canals are closed in any suitable way; but I prefer to use the tool *g*, having the handle *g'*, as shown in Fig. 6, which closes all the canals at one operation. The upper side of the tile, coming thus in a slope onto the lower part, favors the formation of drops of water at the end of it and hinders the mounting of water by capillary attraction between the two surfaces in contact. This system therefore admits of adopting less steep inclines. The tile thus prepared must be dried.

To secure the tightness of the cover, I place in the transverse groove *s*, previously mentioned, tarred cord *s'*, of suitable thickness, which, flattened out by the upper tile, forms a perfect joint, remedying the imperfections of the surface. The cord can go from one end of the roof to the other without interruption in a transverse direction. The tarred cord may be replaced by an analogous matter. Thus a perfectly-tight covering is obtained.

Having thus described my invention, what I claim is—

1. A flat tile having a series of parallel division-walls forming channels, said division-walls extending to one end of the tile, and an arched projection *a*, the walls of which form a continuation of two of the division-walls, as at *a' a''*, substantially as described.

2. A tile having parallel flat faces and overlapping edges, a series of channels divided by parallel division-walls, an arched projection at one end, having its walls in line with two of the division-walls, and a transverse groove on the upper face of the tile at the same end with the packing therein, substantially as described.

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

HENRI STURM.

Witnesses:
ROBT. M. HOOPER,
JULES FAYOLLET.