No. 640,473. Patented Jan. 2, 1900.

T. & L. KÜPPER.

WALL, WALL PLATE, OR SLAB.

(Application filed Mar. 4, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 2.

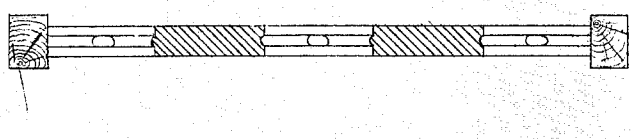
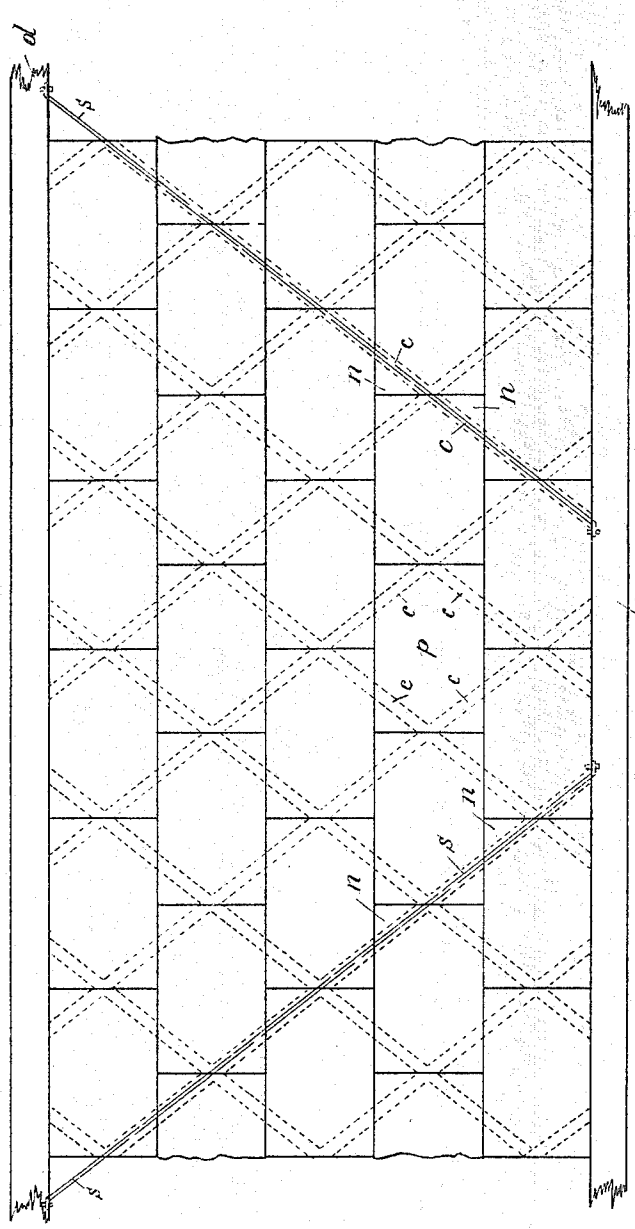


Fig. 1.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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Fig. 3.

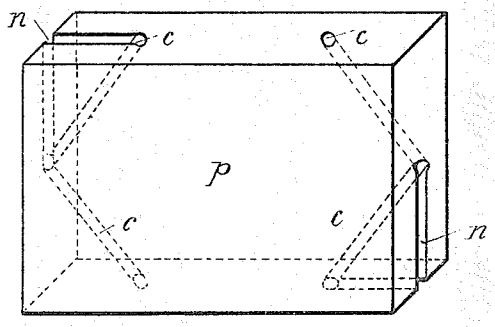
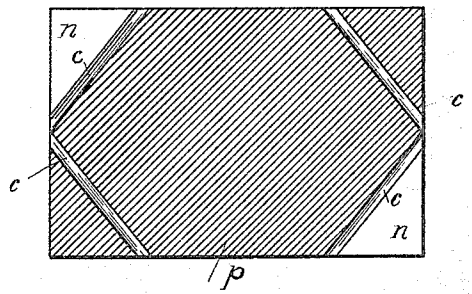


Fig. 4.



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UNITED STATES PATENT OFFICE.

THEODOR KÜPPER AND LAMBERT KÜPPER, OF AIX-LA-CHAPELLE, GERMANY.

WALL, WALL-PLATE, OR SLAB.

SPECIFICATION forming part of Letters Patent No. 640,473, dated January 2, 1900.

Application filed March 4, 1899. Serial No. 707,822. (No model.)

To all whom it may concern:

Be it known that we, THEODOR KÜPPER and LAMBERT KÜPPER, citizens of the German Empire, residing at Aix-la-Chapelle, Rhenish Prussia, Germany, have invented Improvements in Walls and Wall Plates or Slabs, of which the following is a specification.

Our present invention relates to improvements in walls and wall plates or slabs; and the objects of our improvements are, first, to provide a wall made of plates or slabs each of which is connected with all surrounding slabs and supported by the same by means of oblique-crossed strutting-rafters made of connecting medium, thus producing a wall that is run through by means of a crossed channel-net continuously passing through the entire wall and filled up by connecting medium, and, second, to provide means for arranging in the said channel-net one or several oblique iron struts. We attain these objects by the wall and plates illustrated in the accompanying drawings, in which—

Figure 1 is the front view of a wall made of plates or slabs. Fig. 2 is the cross-section of that wall. Fig. 3 represents the view of a single plate, and finally Fig. 4 shows the longitudinal section of such a plate.

Similar letters refer to similar parts throughout the several views.

The plate or slab *p* is provided at all its four corners with an obliquely-directed channel *c*, running from both bed-joints to both side joints. In order that those oblique channels are continued into the surrounding slabs, the distances of the ends of the channels from the corners of the plates are the following: The oblique channels coming from the upper bed-joint, as well as those coming from the under bed-joint, terminate simultaneously in the middle of the side joints. The distance of the end of the channel in the bed-joint from the corners of the slab always is the fourth part of the length of the slab. The plates, preferably, are cut up at two corners diagonally opposite each other, and that in such a way that the middle part of the triangle, the hypotenuse of which forms the oblique channel *c*, is cut off, Fig. 3. The plates can be immediately cast so that they are provided with the aforesaid notches *n*. Instead of arranging the notches *n* at two corners only we can provide the plate at all the four corners with notches. The said notches afford facilities for the proper mounting of walls made of such plates or slabs and containing in its interior one or several iron struts.

The wall is mounted as follows: Between the upper beam *d* and the under beam *b* are arranged the iron struts *s* at an angle corresponding to the oblique directon of the channels *c*. Thereafter we shove the plates *p* over the said struts, the notches of the plates embracing the iron struts *s*, Fig. 1. After having the plates mounted in this manner we cast the connecting material into the channels *c*.

By means of our plates it is possible to mount a wall in the interior of which are contained one or several oblique iron struts, and we can do so without being obliged to hew the plates in any way. Each plate is connected with all surrounding plates by means of eight rods made of connecting medium—two in each bed-joint and two crossed rods in each side joint. Finally each plate is supported by means of strutting-rafters made of connecting medium and with two rafters from below and one at both sides.

We are aware that prior to our invention plates or slabs have been made with channels and walls have been constructed of such plates and containing iron rods. We therefore do not claim such walls and plates broadly; but

What we do claim as our invention, and desire to secure by Letters Patent, is—

1. A wall plate or slab provided at its four corners with oblique channels extending each from the horizontal bed sides to the middle of the vertical sides of the slab, the ends of the channels in the bed sides being distant from the corners about the fourth part of the length of the slab, essentially as set forth and for the purpose specified.

2. A wall plate or slab provided at its four corners with oblique channels extending each from the horizontal bed sides to the middle of the vertical sides of the slab, the ends of the channels in the bed sides being distant from the corners about the fourth part of the length of the slab, the said slab being provided at two diagonally opposite corners with

notches extending from the corner to the said oblique channel, essentially as set forth and for the purpose specified.

3. A wall made of wall plates or slabs through which passes an oblique, crossed and continuous channel-net filled up with connecting medium, the said plates being provided at two opposite corners with notches extending from the corner to the said oblique channel, obliquely-directed iron rafters arranged in the said notches and in the said channels, all essentially as described and for the purpose specified.

In witness whereof we have hereunto set our hands in presence of two witnesses.

THEODOR KÜPPER.
LAMBERT KÜPPER.

Witnesses:
JOSEPH MÖHLIG,
C. E. BRUNDAGE.