G. W. LAMBERT.

WALL CONSTRUCTION.

APPLICATION FILED JULY 9, 1909.

951,010. Patented Mar. 1, 1910.

Fig. 1.

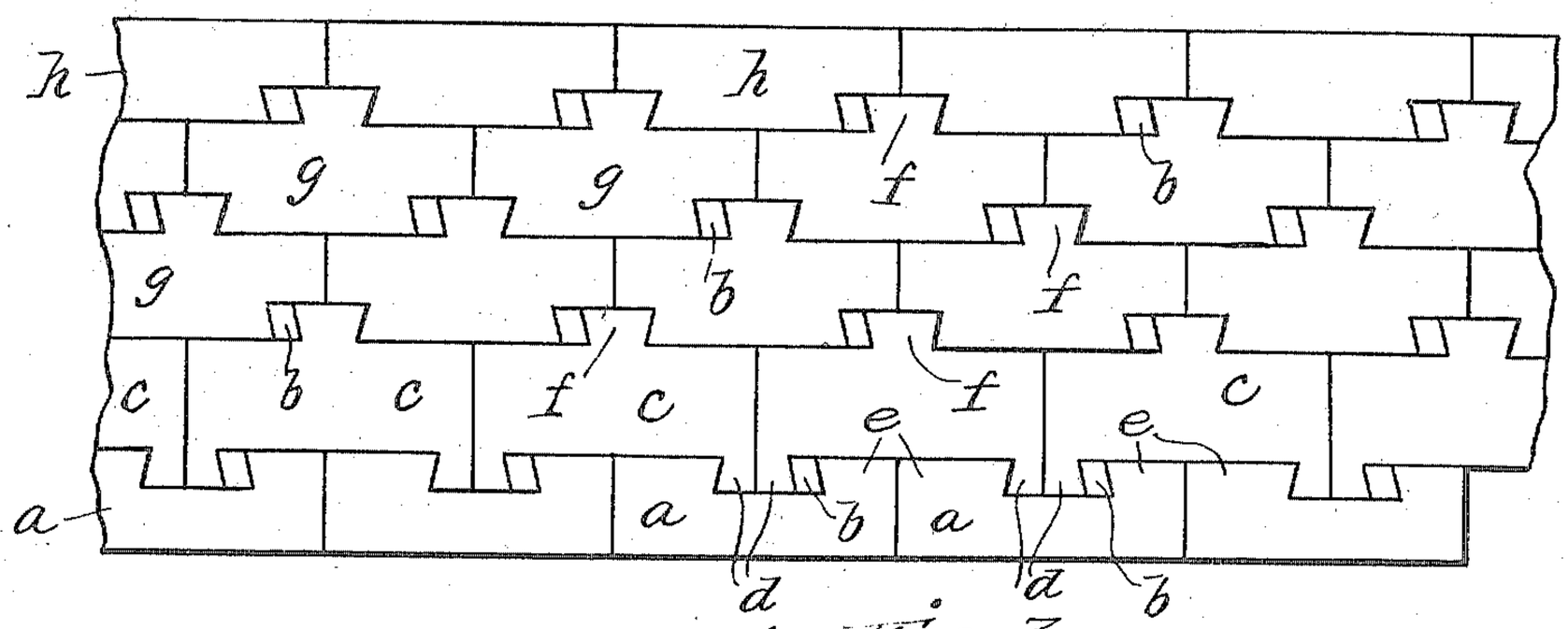


Fig. 3.

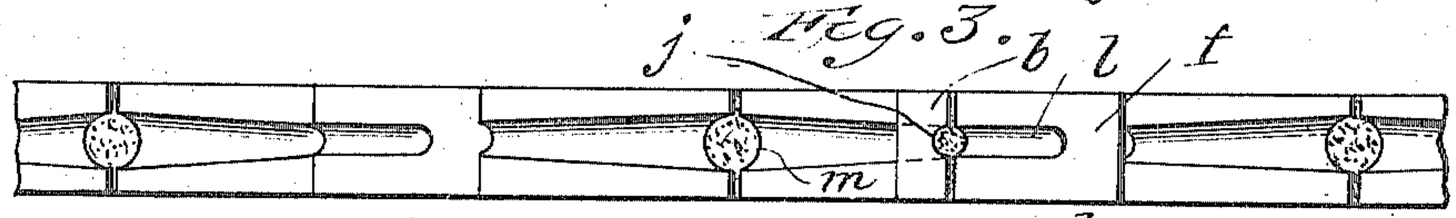


Fig. 2.

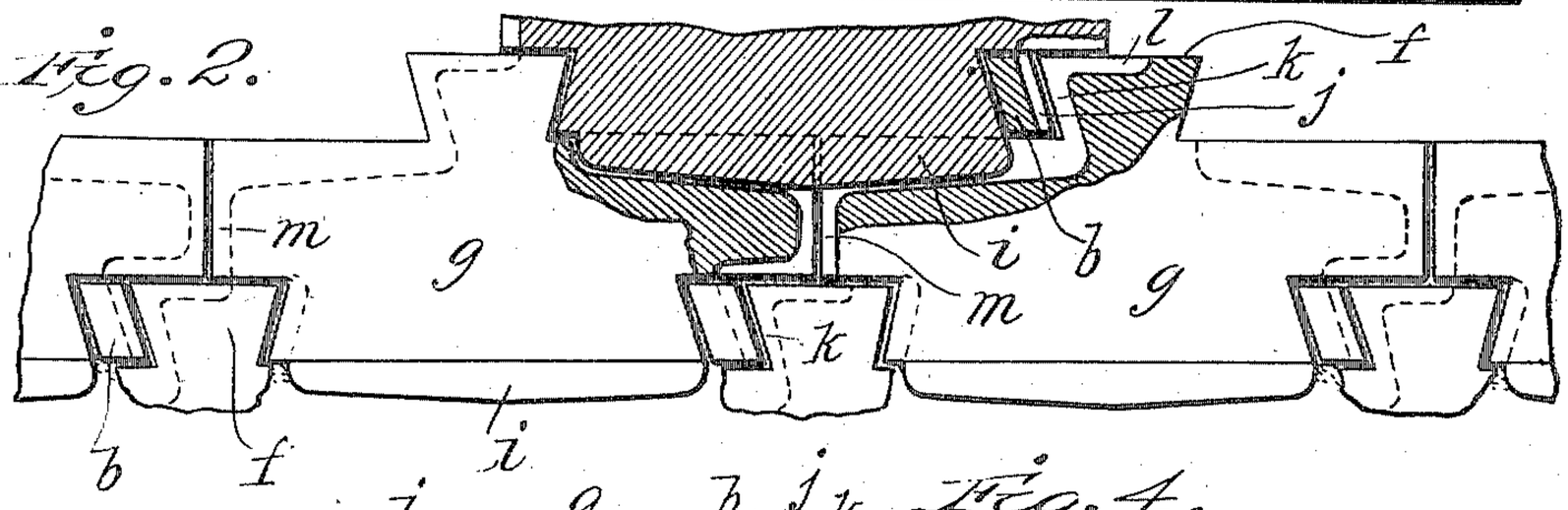


Fig. 4.

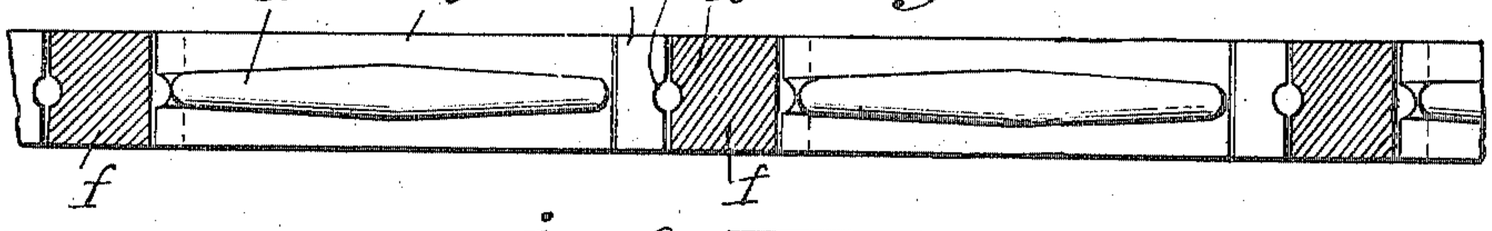


Fig. 7.

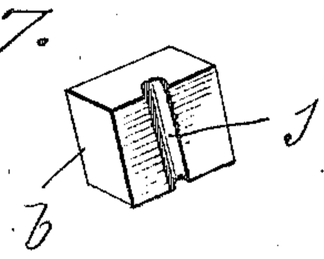


Fig. 6.

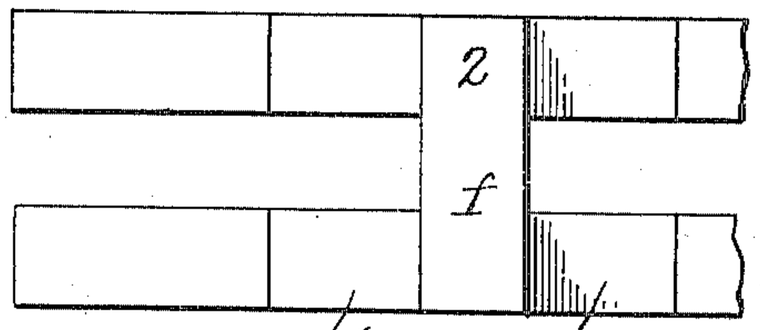
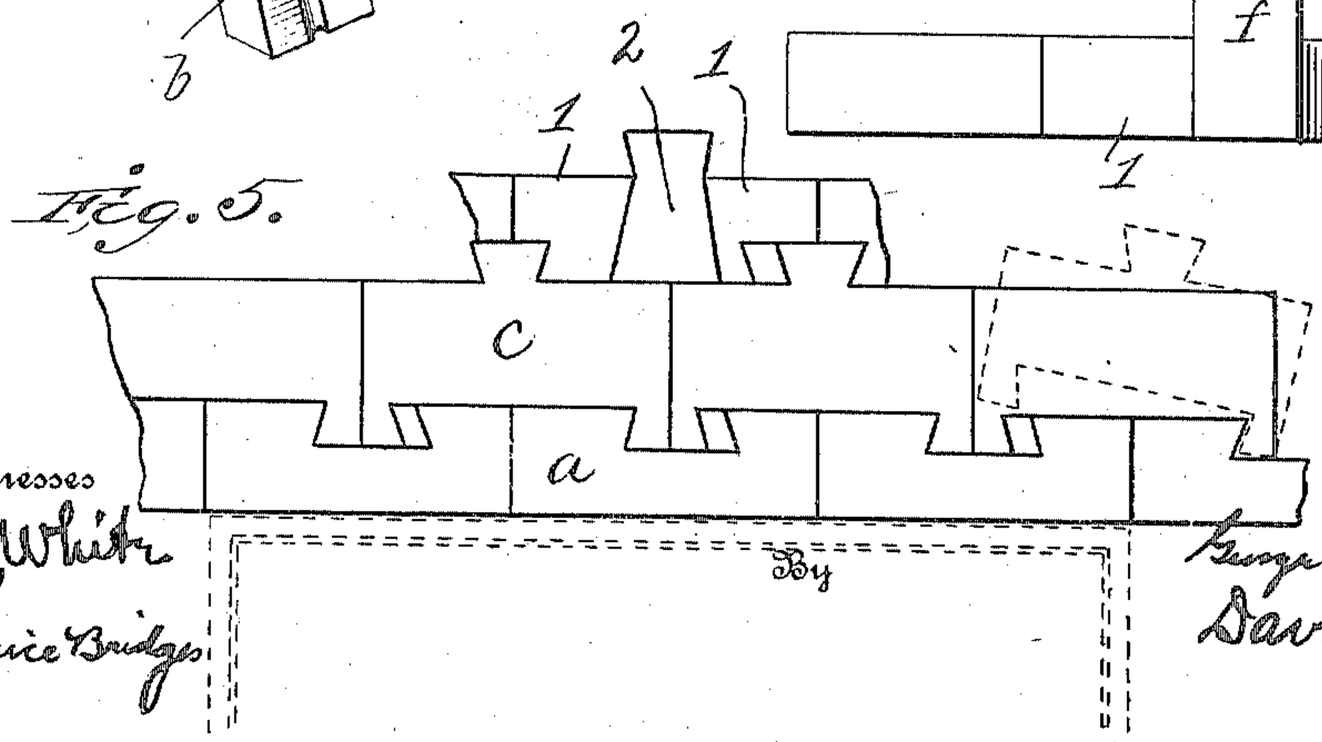


Fig. 5.



Witnesses

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WALL CONSTRUCTION.

951,010. Specification of Letters Patent. Patented Mar. 1, 1910.

Application filed July 9, 1909. Serial No. 506,681.

To all whom it may concern:

Be it known that I, GEORGE W. LAMBERT, a citizen of the United States of America, and a resident of Richmond, county of Henrico, State of Virginia, have invented certain new and useful Improvements in Wall Construction, of which the following is a clear and full specification, reference being had to the accompanying drawings, of which—

Figure 1 represents a side elevation of a portion of a wall constructed in accordance with my invention; Fig. 2 is a side elevation, partly in section, of a portion of the wall enlarged in comparison with Fig. 1; Fig. 3 is a plan view of the top portion of the wall; Fig. 4 is a bottom view of a portion of a wall, partly in horizontal section; Figs. 5 and 6 respectively a side elevation and a plan view of a portion of a wall showing manner of forming a course of header or binder brick for connecting adjacent thicknesses of wall; and, Fig. 7 a detailed perspective of the wedge-key employed for locking the adjacent courses together.

My invention relates to brick and cement buildings or forms for the construction of building foundations, chimneys, stacks, sewers, culverts, flumes and other wall constructions requiring a thorough interlocking of the various courses and pieces together to form a firmly bonded air-tight and water-tight construction.

Referring to the drawings annexed by reference characters, *a* designates the bricks forming the bottom course, each of these bricks being provided with a transverse dove-tailed groove located a distance to one side of the middle of the brick approximately equal to the width of a wedge-key *b*, this key having a length equal to the width of the brick and being rhomboidal in cross section so as to be adapted to fit into one corner of the aforesaid groove and have its upper face flush with the upper face of the brick.

The letter *c* designates the second course of brick each of which is provided with a dove-tail or under-cut groove across its lower face, forming depending flanges or projections *d* at each end of the brick, so that when the bricks are laid end to end each adjacent pair of depending projections forms together a depending dove-tail projection which fits within the dove-tail grooves in the brick below, while the upstanding portions *e* of the lower course of brick form upstanding dove-tail projections which fit within the transverse dove-tail groove in the brick *c*. In laying this second course of brick, they are put in place from the top, just as ordinary brick are laid, and this is rendered possible by making the dove-tail projections formed by the parts *d* of lesser width than the narrowest or entrance portion of the dove-tail groove in the lower brick. After the brick are thus positioned they are locked and wedged into place by the wedge-keys *b* which are shoved in from the side.

On the upper face of each of the bricks *c* about midway its length is a projection *f* extending transversely of the brick and having under-cut sides give it a dove-tail shape. The next course of brick *g* are each provided with one of said upstanding projections *f* on its upper side but instead of having a groove in its lower face between its ends, it is provided with an under-cut groove at each end so that when these brick *g* are laid end to end upon the course *c* there is formed at the junction of each pair of brick a transverse dove-tail groove for the reception of the upstanding projection *f*, and in order to accommodate the key *b* and permit these brick *g* to be laid from the top, one of the end grooves is made wider than the one at the other end of the brick to an extent approximately equal to the width of the key, as described with the lower course of brick. If thus constructed this course *g* may be laid in place from the top and endwisely wedged and locked to the lower course by the wedge-keys *b*. This course *g* is repeated until the wall reaches the top course, and I therefore designate these brick *g* as the main or body brick. The top course *h* is the same as the body brick *g* except that their upper faces are not provided with the projections *f*. To further interlock the brick together and to relieve the dove-tail interlocking projections of undue strain, I provide the lower face of each of the body brick *g* with a central longitudinal rib *i* which preferably tapers from a point midway its length, this rib or tongue *i* fitting in a corresponding shaped groove in the upper faces of the brick below, this groove being formed partly in one brick and partly in the adjacent brick, as shown especially in Fig. 2.

To lock the wedge-keys *b* against end-wise displacement I provide its inner face with a

vertical groove *f* semi-circular in cross section, and the adjacent face of the under-cut portion of the brick with a similar groove *k*, thus forming an approximately circular hole between the adjacent portions of the key and the brick, which hole communicates at its upper end with the pouring groove *l* and at its lower end with the groove formed to receive the rib *i*. This groove formed to receive the rib *i* is slightly larger than said rib, and it communicates about mid-way its length with a vertical groove *m* formed between the adjacent vertical edges of the brick. During the erection of the wall a liquid cement is poured into these communicating grooves in such manner that it fills all the spaces, these spaces being arranged so as to communicate with each other as shown, so that when the cement hardens the brick of each course will be permanently locked together and the several courses will also be interlocked permanently, and the wedge-keys will also be permanently locked against end-wise displacement. The joints between the brick will be sufficiently free or loose to permit a little of the cement to flow into the joints and fill the same and thus assist in locking the bricks together and in rendering the wall air and water-tight. Should a little of the cement run out on the faces of the wall this may be removed and the joints pointed up in the usual way in brick work.

Where the wall is constructed of two or more thicknesses of brick, as shown in Figs. 5 and 6, it is desirable to run a course at intervals of binder or header brick, extending across the several thicknesses. To do this I increase the width of the main or body brick and divide the same transversely into three sections designated by the numerals 1 and 2, the central section carrying the upstanding dove-tail projection *f* and the side sections carrying the end grooves. The adjacent faces of these sections are preferably under-cut so as to thereby more securely lock them together when in place. I show only the central section 2 extending across the two thicknesses of wall but it is obvious that all three sections may be extended across if desired.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is:

1. A wall constructed of a series of courses of brick, the adjacent upper and lower faces of the courses being locked together by means of under cut transverse grooves and projections extending entirely across the horizontal faces of the bricks, transverse rigid keys inserted between the adjacent under cut side walls of the projections and grooves, and means for locking the keys against end-wise withdrawal.

2. A wall constructed of courses of brick breaking joint with each other, the faces of the courses being provided with interlocking under cut transverse grooves and similarly shaped projections extending entirely across the upper and lower faces of the brick, the grooves being wider than the projections to permit the brick being laid from the top, keys inserted in the spaces between the projections and the adjacent walls of the grooves, this key having a cross sectional shape approximately corresponding with said space, and means for locking the keys against end-wise withdrawal.

3. A wall constructed of courses of brick super-imposed, the bricks in each course being arranged from end to end and breaking joints with the bricks in the adjacent courses, the adjacent lower corners of the brick being transversely cut away entirely across the bricks to form a transverse under-cut groove at each vertical joint, each brick being provided on its upper side between its ends with an upstanding under-cut projection, and a key block inserted in each transverse groove between one end wall of the same and the adjacent end wall of the adjacent upstanding projection, for the purpose set forth.

4. A wall consisting of courses of brick interlocked by transverse under-cut recesses and grooves, a key inserted in each groove between one end of the wall thereof and the adjacent face of the projection, the adjacent faces of the key and the projection being grooved, and a plastic filling or key inserted in said grooves to lock the key against end-wise displacement.

5. A wall consisting of courses of brick, the brick of each course having a transverse under cut projection on one horizontal face and a transverse under cut groove on its lower horizontal face, these grooves and projections being thus shaped to interlock and thus prevent end-wise movement of the bricks and at the same time lock each course to its adjacent course, the vertical abutting ends of the brick being coincidently grooved, and an interlocking plastic filling or key being inserted in said grooves, whereby the brick are locked against independent edge-wise movement.

6. A wall comprising courses of brick having their ends abutted, the bricks of one course breaking joints with the bricks of the adjacent courses and interlocked by under-cut transverse recesses and projections, a key or filling piece inserted in each transverse groove to lock the courses together, the adjacent ends of the brick and the adjacent faces of the keys and projections being correspondingly grooved, the aforesaid grooves communicating with each other, and a continuous plastic filling in said grooves, for the purpose set forth.

7. A wall constructed of courses of brick provided on the horizontal adjacent faces

with under-cut transverse projections and grooves, extending entirely across the brick, a transverse under-cut locking or wedging key in each groove, each brick being provided on its bottom with a longitudinal rib and the upper faces of the brick being provided with longitudinal recesses to receive the rib, for the purpose set forth.

8. A wall constructed of two thicknesses each thickness being constructed of courses of brick having interlocking transverse projections and grooves on its upper and lower faces, transverse wedging or locking keys inserted in said grooves end-wisely, one of the courses of said brick being extended across the two thicknesses of the wall to form a binder or header course, each of the brick of this course being made in transverse sections.

9. The method herein described of building a wall consisting of interlocked brick work, consisting in laying the brick upon each other in super-posed courses with the under-cut projections in one course entering under-cut recesses in the other course, then inserting in each recess from the side a filling key or wedge, and then locking each key in place by pouring a fluid plastic material between one face of the key and an adjacent face of the brick, these adjacent faces being provided with grooves for the reception of said plastic material, substantially as set forth.

In testimony whereof I hereunto affix my signature in the presence of two witnesses this 3 day of July 1909.

GEORGE W. LAMBERT.

Witnesses:
GEO. J. HOOPER,
CLIFF. GODSEY.