

March 20, 1928.

1,663,276

T. V. MILES

## WALL FOR BUILDING CONSTRUCTION

Filed April 23, 1927

FIG. 1.

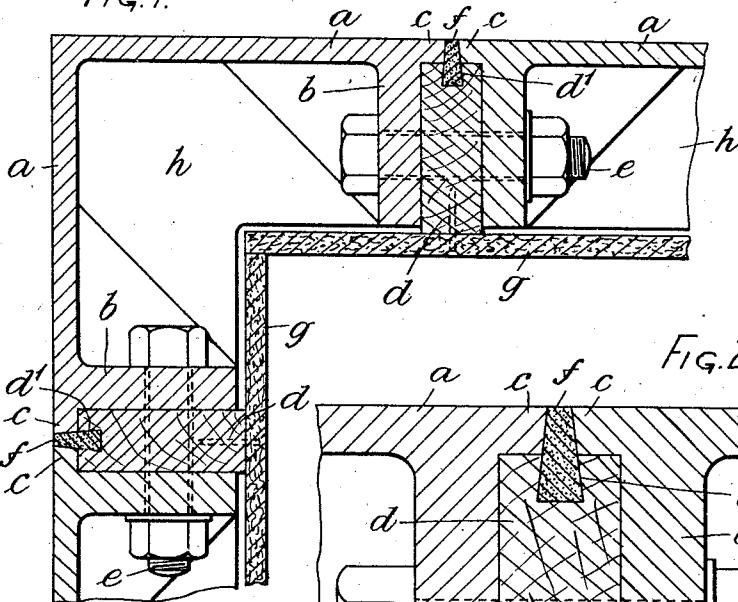


FIG. 3.

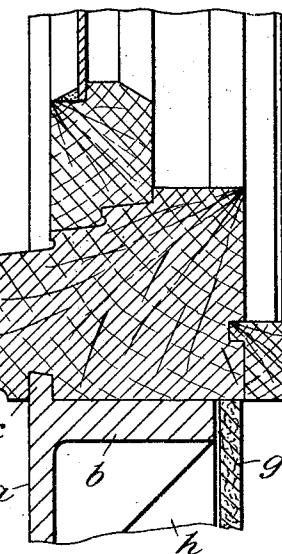


Fig. 2

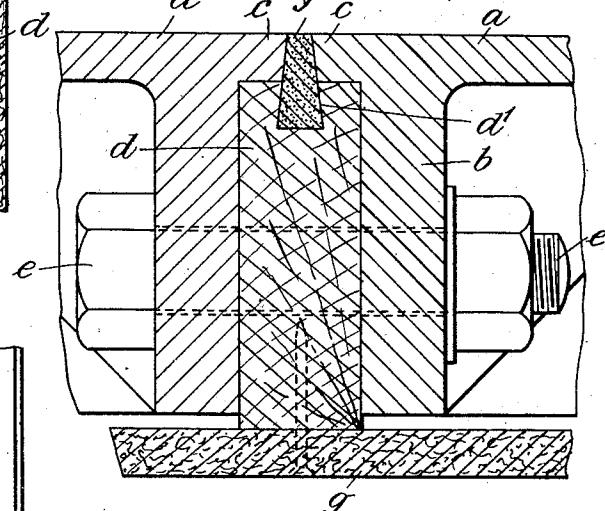
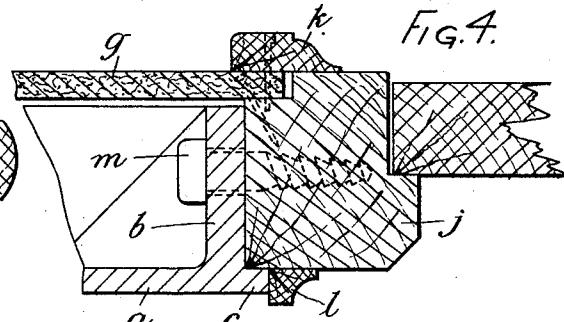


Fig. 4



Inventor:

T.V. Miles

*R. V. Williams*  
R. V. Williams  
R. V. Williams  
R. V. Williams

Patented Mar. 20, 1928.

1,663,276

# UNITED STATES PATENT OFFICE.

THOMAS VIVIAN MILES, OF NEAR SHEFFIELD, ENGLAND, ASSIGNOR OF ONE-HALF TO  
NEWTON CHAMBERS & COMPANY LIMITED, OF NEAR SHEFFIELD, ENGLAND, A  
BRITISH COMPANY.

## WALL FOR BUILDING CONSTRUCTION.

Application filed April 23, 1927. Serial No. 186,039½.

This invention relates to walls for building construction.

The improved construction is on the well known lines adapted for building cast iron tanks, which construction consists essentially of standardized cast iron flanged plates of uniform design with a minimum number of special plates.

In adapting such a construction for building walls for houses the cast iron plates have been assembled with strips of wood or other non-metallic material inserted between the flanges of the plates for the purpose of avoiding machining and permitting the plates to be used as received from the foundry as far as the machining of the flanges is concerned.

The external joint between the flanged plates or between marginal rims projecting at right angles to the flanges was filled with cement.

It is the object of the present invention to provide an improved construction and combination of parts whereby the strips of wood or non-metallic material inserted between the flanges of the plates and the cement filled in between the adjacent rims or ledges of the plates may be effectively united to prevent the cement filling from being dislodged and thereby more effectively seal the joint between the plates against the weather.

With these and other objects in view my invention consists in the construction, arrangement and combination of the various parts as hereinafter more fully set forth, pointed out in the claims and illustrated in the accompanying drawings, wherein,

Fig. 1 is a section showing a corner plate and two adjacent plates connected thereto,

Fig. 2 shows to a larger scale a section across a joint between the adjacent plates.

Fig. 3 is a part section through a window sill and a supporting plate.

Fig. 4 is a part section through a door frame and adjacent plate.

Similar letters refer to similar parts in all the figures.

In the construction of wall shown in Figs. 1 and 2, the metal plates *a* are provided with flanges *b* presented inwardly and with marginal rims or ledges *c* of the same or substantially the same thickness as the plates and forming an extension thereof beyond the flanges *b*. In other words the flanges *b*

may be said to be set back from the edges 55 of the plates.

In constructing the wall of a building, strips of wood *d* are inserted between the flanges *b* and the parts are bolted together by through bolts such as *e*. 60

The strips of wood *d* are of such thickness as to leave a space between the adjacent edges of the marginal rims *c* and the adjacent end or face of the said wooden strips are formed with a dovetailed or undercut 65 recess or groove *d'*.

A cement filling *f* is inserted into the space between the adjacent marginal rims *c* of the metal plates *a* and extends into and fills the dovetailed recess or groove *d'* in the wooden strips *d*, the said cement filling being thus more effectively held in place and an effective weather-tight joint secured. 70

The edges of the marginal rims *c* may be bevelled as shown to more effectively retain 75 or support the filling of cement *f*.

The internal lining of the house whether of wood lathes and plaster, composition board or other material is nailed or otherwise secured to the inside face of the wooden 80 jointing strips *d* and the latter may project beyond the inner edges of the flanges *b*.

By this construction there is provided between the plates *a* and the lining *g* an intervening air space *h* which forms an efficient non-conductor. If desired the space 85 *h* may be filled in with any suitable material.

Fig. 1 shows how a corner plate is employed, the arrangement being otherwise as 90 in Fig. 2.

Fig. 3 shows how the marginal rim *c* is employed as a tongue for fitting a window sill *i* in a weather tight manner, and,

Fig. 4 shows how a door frame *j* is fitted 95 within the rim *c* and secured by a coach screw *m* to the flange *b*. The door mouldings *k* and *l* are fitted in an appropriate manner.

Amongst other advantages of the construction shown is that the shell of a house may be built in a very short time of unmachined cast iron plates, and the number of different types of plates required may be reduced to a minimum, as few as three types 100 only being required in most cases. The cement filling *f* between the joints is readily inserted and by filling the same into the 105

dovetailed or undercut recesses or grooves  $d'$  of the wooden strips  $d$  the said cement filling is securely anchored in place to better maintain a weathertight joint.

5. The erection of the building may be carried out without the aid of external scaffolding if desired.

Adequate means are provided for securing and making weather tight joints for the 10 windows, doors and other fittings and also for securing the internal lining or other internal fittings.

What I claim as my invention and desire to secure by Letters Patent is:—

15. 1. The improved construction of walls for buildings comprising the combination of metal plates provided with flanges presented inwardly and with marginal rims projecting at right angles to the said flanges, strips 20 of wood inserted between the adjacent flanges of the assembled plates, the said strips of wood having their ends adjacent to the said marginal rims formed with dovetailed recesses, and a cement filling inserted 25 between the adjacent marginal rims of the assembled metal plates and extending therefrom into and filling the recesses in the wooden strips.

2. The improved construction of walls for

buildings comprising the combination of 30 metal plates provided with flanges presented inwardly and with marginal rims projecting at right angles to the said flanges, strips of non-metallic material inserted between the adjacent flanges of the assembled 35 plates, the said strips of non-metallic material having their edges adjacent to the said marginal rims formed with dovetailed recesses, a cement filling inserted between the adjacent marginal rims of the assembled 40 metal plates and extending therefrom into and filling the recesses in the non-metallic strips of material.

3. The improved construction of walls for 45 buildings comprising the combination of metal plates provided with flanges presented inwardly and with marginal rims projecting at right angles to the said flanges, strips of wood inserted between the adjacent flanges of the assembled plates, the 50 said strips of wood having their ends adjacent to the said marginal rims formed with undercut recesses, and a cement filling inserted between the adjacent marginal rims of the assembled metal plates and extending 55 therefrom into and filling the recesses in the wooden strips.

THOMAS VIVIAN MILES.