June 14, 1932. A. J. PALMER 1,863,543

BUILDING CONSTRUCTION

Filed July 23, 1931

Fig. 1.

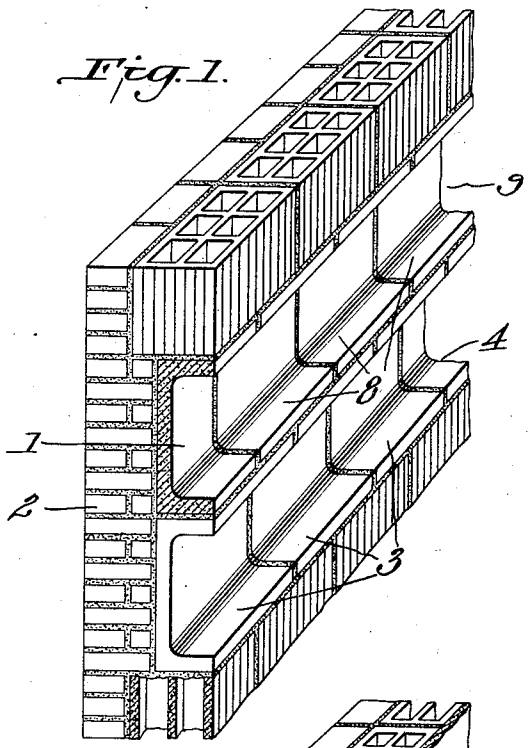
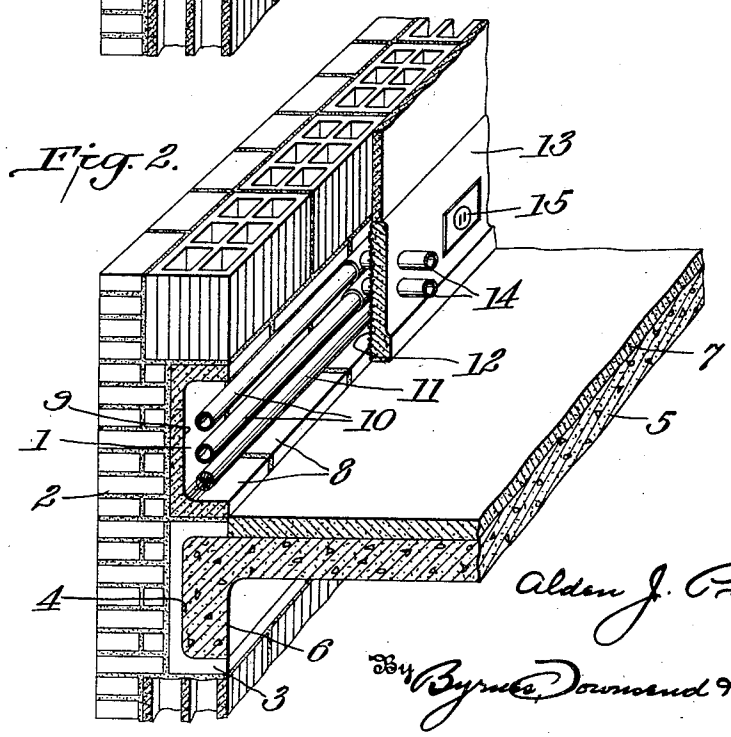


Fig. 2.



Inventor:
Alden J. Palmer,
By Byrnes, Townsend & Brotter,
Attorneys.

Patented June 14, 1932 1,863,543

UNITED STATES PATENT OFFICE

ALDEN J. PALMER, OF NEW YORK, N. Y., ASSIGNOR TO REPUBLIC FIREPROOFING COMPANY, INC., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK

BUILDING CONSTRUCTION

Application filed July 23, 1931. Serial No. 552,723.

This invention relates to building constructions and particularly to constructions of the type wherein channels or chases are provided in the walls adjacent the floor levers for the reception of service pipes or conduits and/or the reception of the edges of floor slabs.

In building constructions heretofore known, the principal expedients for concealing the service lines, such as plumbing pipes, electric conduits and the like were: to conceal them in a trench in the floors adjacent the walls; or in a "floor fill" between the floor slab and the finished floor; or in the ceiling of the next lower story; or to conceal them in a chase in the wall, formed by corbelling out of masonry immediately above the chase or by using a steel plate to support the masonry about the chase.

The disadvantages of the first three expedients were: that the service lines were inaccessible for repairs and changes; the floors and ceilings were subject to cracking, resulting from expansion and contraction of the pipes; the floors and ceilings were subject to damage from possible leakage of the pipes; and the floors were weakened because of the reduced amount of structural material. In the case of concealment of the service lines in chases in the walls, additional labor was necessary in setting the masonry; the wall section was reduced, and consequently its structural strength and moisture-excluding property were reduced; and where a steel plate was used, additional expense for material was entailed.

In the prior wall and floor constructions, the walls were built up to each floor level and then the floor slab was poured, after which the walls were extended up to the next floor level and so on. It was thus necessary to suspend the construction of the walls at each floor level until the floor slab had set which delayed the completion of the structure and necessitated a greater expense than would have been necessary had it been possible to continue the erection of the walls without interruption.

An object of the invention is the provision in a wall construction, of chases or channels in the wall for the reception of service lines and/or the reception of floor slabs, wherein the chased portions of the walls will have the same structural strength and the same moisture-excluding properties as the other portions of the wall.

Another object of the invention is the provision of a wall construction wherein the floor slabs are set in recesses in the walls whereby the walls may be completely erected before the floors are constructed.

Another object of the invention is the provision of a building construction wherein the service lines are so concealed in the walls that no damage to the floors or ceilings can result from expansion or contraction of the pipes or leakage therefrom, and wherein easy access may be had to the service lines for the purpose of making repairs or alterations.

Other objects will appear from the following description and the accompanying drawing, wherein:

Fig. 1 is a perspective view partially in cross-section showing a portion of a wall constructed according to the invention, and

Fig. 2 is a similar view showing a floor slab and service lines in their proper places.

According to the present invention, a horizontal recess 1 is provided in the wall 2, at the floor level, and a row of channel-shaped, cement blocks 3 are set into the recess 1 with the webs innermost and the flanges extending to, and terminating flush with the inside face of the wall to define a chase or channel 4 extending horizontally along the inner side of the wall 2. When the structural floor slab 5 is poured, the flanged edge portion 6 is formed in situ within the chase thus constituted, whereby the floor slab 5 is securely supported by the wall 2. A finish coating 7 of fine concrete or other suitable plastic material is poured on the floor slab 5 after the same has set to provide a smooth hard finish for the floor.

Also disposed in the recess 1 in the wall 2, immediately above the row of blocks 3, is a second row of channel-shaped blocks 8 similar to the first row of blocks 3 and arranged in a similar manner to define a second chase 9 similar to that just described. In the second chase 9 are disposed the horizontal

service lines 10, 11, such as plumbing pipes, electric conductor conduits and the like. The open side of the chase 9 preferably is closed by expanded metal lathing 12 which supports a plaster wall section 13 constituting the floor board. This section may, if preferred, be formed, for example, of metal, wood, or fabricated material. The floor board is provided with outlet openings 14, 15 for the pipes 10 and wires 11.

The channel-shaped block 3 and 4 is preferably formed of a mixture of cement, a material rich in aluminosilica compounds such as sand, blast furnace slag and water molded as a relatively dry mix under heavy pressure and subsequently steam cured, as is more fully set forth in the copending application of Rowland McWilliams, Serial No. 318,010, filed November 8, 1928. The size and composition of the finished block are such that the block has as great structural strength as, and even greater moisture-excluding ability than the section of masonry which it replaces.

It will be seen that the present invention provides a wall having provision for receiving the edges of floor slabs and for concealing service lines, which wall is simple and inexpensive to erect, which has as great mechanical strength and greater moisture-excluding ability than an all masonry wall, and which wall may be completely erected before the floor slabs are poured or the service lines installed. It also should be noted that in the present construction, the same type of labor may be employed in placing the channel-blocks as is employed in constructing the masonry wall, whereas in the construction wherein a metal channel or plate is used to form the channel, a different type of labor is required for each operation.

I claim:

1. In a wall construction, the combination with masonry units, and plastic joining said units to form a wall, of a row of cement channel blocks set into said wall at substantially the level of a floor, the ends of the flanges of the channel blocks being substantially flush with the interior face of the wall and the webs of the channel blocks lying in the interior of the wall.

2. The invention as set forth in claim 1, wherein said blocks are formed of a dry cement mixture molded under heavy pressure and steam cured, and the strength and water-repellant properties of the channel section of said wall are substantially the same as at other sections of the wall.

3. In a wall construction, the combination with masonry units united by a hardened plastic to constitute a wall, of a horizontal row of channel-shaped cement blocks set into the interior face of said wall to define a shallow channel located substantially at a floor level, and a floor slab having a lateral edge thereof seated in said channel.

4. In a wall structure, the combination with structural elements united to constitute a wall, of a horizontal row of channel shaped blocks set into said wall at the level of a floor to provide an open channel, the flanges of said blocks terminating substantially at one face of said wall and the webs of said blocks being located within said wall, said blocks being formed of concrete and having a load-carrying capacity of the order of that of the section of the wall which is in vertical alinement with said channel blocks.

5. A building construction comprising, a wall having a horizontal channel formed therein substantially at a floor level, a row of channel-shaped blocks disposed in said channel to provide a chase in said wall, a floor slab having its edge seated in said chase, a second row of channel-shaped blocks disposed in said channel adjacent the first row of blocks and defining a second chase for the reception of service lines, and means for closing said second chase.

6. A building construction comprising, a wall having a horizontal channel formed therein substantially at a floor level, a channel-shaped block disposed in said channel with its concave side facing the building interior to provide a chase in the interior face of said wall, service lines in the chase thus provided, and closure means for said chase disposed substantially in the plane of the inner face of said wall.

In testimony whereof, I affix my signature.

ALDEN J. PALMER.