Oct. 28, 1930. D. H. BARRY 1,780,107

RAYPROOF BUILDING BLOCK

Filed March 20, 1929

Fig. 1.

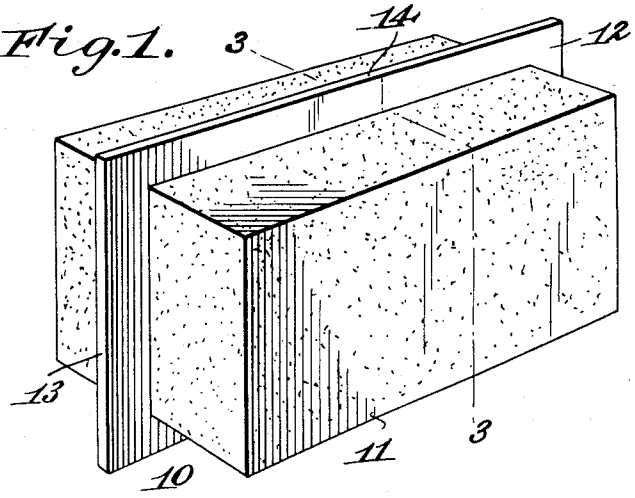


Fig. 2.

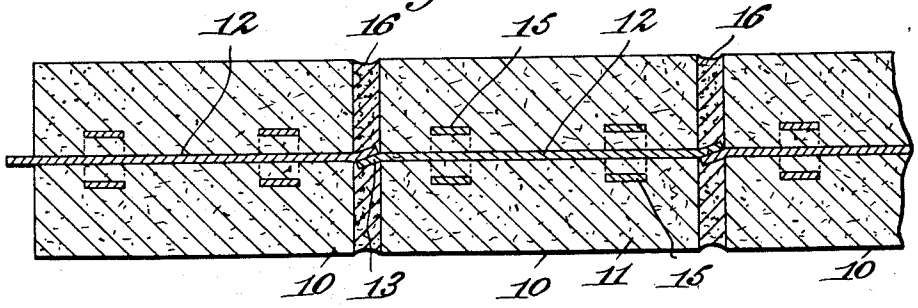


Fig. 4.

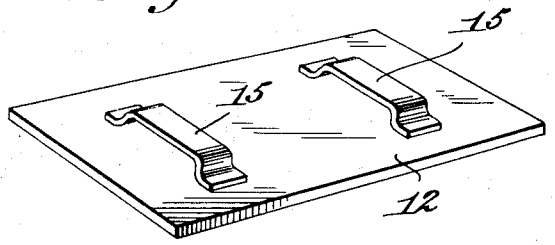


Fig. 3.

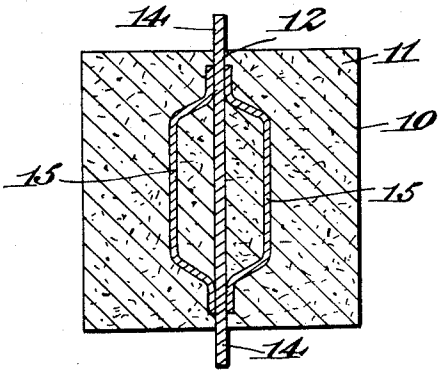
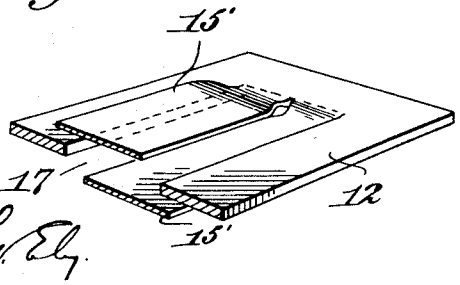


Fig. 5.



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WITNESS: [illegible]

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UNITED STATES PATENT OFFICE

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RAYPROOF BUILDING BLOCK

Application filed March 20, 1929. Serial No. 348,507.

This invention relates to improvements in ray-proof building blocks and which is especially adapted for use in the erection of walls and partitions, or floor structures in hospitals, doctors' and dentists' offices and other places where X-ray and other like machines are used, the rays from which are capable of penetrating ordinary wall structures not protected thereagainst.

Another object of the invention resides in a ray-proof block made of cement, cinders or the like in which a layer of ray-proof material is embedded therein with its edges extending beyond the several faces of the block to permit the projecting ends or flanges to overlap the ends or flanges of the next adjacent blocks, whereby the joints between the blocks are sealed against the penetration of rays therethrough.

A further object is to provide a ray-proof block in which a lead plate is embedded centrally therein with end portions projecting therebeyond, and which ends may be bent angularly so that overlapping of the ends of the adjacent blocks in a wall structure will not interfere with the perfect alignment of the blocks when placed end to end, and one above the other.

With these and other objects in view, the invention resides in certain novel construction and combination and arrangement of parts, the essential features of which are hereinafter fully described, are particularly pointed out in the appended claims, and are illustrated in the accompanying drawing; in which:—

Figure 1 is a perspective view of one of my improved ray-proof blocks.

Figure 2 is a horizontal sectional view through a wall structure constructed of my ray-proof blocks.

Figure 3 is a vertical transverse sectional view on the line 3—3 of Figure 1.

Figure 4 is a perspective view of the ray-proof plate per se.

Figure 5 is a sectional perspective view of a slight modified form of ray-proof plate.

Referring to the drawing, the reference numeral 10 designates my improved ray-proof block in its entirety which includes a body 11 of rectangular shape and which may be constructed of cement, cinders, or the like, through which X-rays and other similar rays may ordinarily penetrate. However, I make this body ray-proof by embedding a layer of bendable ray-proof material or plate 12 centrally therein and which is preferably lead, as it is well-known that lead acts as a barrier against the penetration of such rays. The plate 12 in this instance is of such size that its ends project beyond the end faces of the body into flanges 13 while the longitudinal side of the plate extend beyond the adjacent longitudinal flat faces of the body to provide flanges 14.

To securely anchor the plate 12 to the body 11, I provide transverse anchor strips or rails 15 to opposite sides of the plate adjacent opposite ends thereof. The ends of the rails are fixedly secured to the plate in any suitable manner, while the major portion of the same is spaced therefrom to enable the material from which the body is made to fill the space and provide a firm bond therebetween.

In Figure 2 of the drawing, I have shown several of my ray-proof blocks laid end to end in wall forming arrangement, wherein the end flanges 13 at the adjacent meeting ends of the blocks overlap to seal the joint therebetween as well as to space the blocks one from another. To enable the blocks to be properly aligned, the flanges 13 may be bent angularly when being set in position, after which the joint is filled with the usual mortar 16 and the flanges concealed from view. The same arrangement exists between the overlapping flanges 14 when the blocks are positioned one upon the other in tiers and a repetition of the description is not believed necessary. The flanges 13 and 14 of adjacent blocks thus afford a flat-surface-contacting non-positive bond between the blocks.

From the foregoing description, it will be seen that when theblocks 10 are in wall forming position, they present an ordinary appearance, but by reason of the lead plates 12 and the overlapping edges of the same, the wall is non-pierced throughout and is ca-

pable of interrupting the path of the rays which prevents the same from passing therethrough from one side to the other.

In Figure 5 of the drawing, I have shown a slightly modified form of my invention wherein the anchor rails 15′ are stamped out of the lead plate 12′ to extend onto opposite sides thereof, the same being flattened so that the sides of the rail overlap each other, and also overlap the side walls of the slot 17 formed in the plate by the stamping of the rails therefrom. This is to prevent the rays which travel in a straight path from possibly passing through any unprotected space. The rails 15′ act in the same manner to anchor the plate in the block as do the rails 15 in the preferred form and the other features thereof are similar so that further explanation is not deemed necessary.

While I have described what I deem to be the most desirable embodiment of my invention, it is obvious that many of the details may be varied without in any way departing from the spirit of my invention, and I therefore do not limit myself to the exact details of construction herein set forth nor to anything less than the whole of my invention limited only by the appended claims.

What is claimed as new is:

1. In a ray-proof built up wall structure, a plurality of X-ray proof blocks, each block including a body, and a lead plate embedded in said body and having normally plane edges extending beyond the faces of said body to provide integral flanges, the flanges of adjacent blocks being bendable and overlapping each other in rigid contacting surface bonding engagement at the joints therebetween during their emplacement, whereby said wall includes a continuous, non-pierced, sound deadening lining opaque to X-rays.

2. In a ray-proof wall structure a plurality of ray-proof blocks, each block including a body, and a lead plate embedded in said body and having a plurality of integral flanges extending beyond the faces of said body, the flanges of adjacent blocks overlapping each other at joints between said blocks, said flanges being bent angularly into rigid flat-surface-contacting bonding relation as the blocks are set in place so as to disposed said blocks in proper spaced alignment to produce a continuous non-pierced sound deadening lining opaque to X-rays.

3. In a ray-proof wall structure a plurality of ray-proof blocks, each block including inner and outer body members, and a lead plate embedded between said body members, said plate having integral flanges extending beyond upper and side faces of said body members, the flanges of adjacent blocks overlapping each other at joints between said blocks, said flanges being bent angularly into rigid flat-surface-contacting non-positive bonding relation as the blocks are set in place so as to dispose said blocks in proper spaced alignment to produce a continuous non-pierced sound deadening lining opaque to X-rays, said plate including anchor members at opposite sides for securely anchoring said plate in said inner and outer body members.

4. In a ray-proof wall structure a plurality of ray-proof blocks, each block including a body having inner and outer members, and a lead plate embedded in said body and having a plurality of integral flanges extending beyond faces of said body members, the flanges of adjacent blocks overlapping each other at joints between said blocks, said flanges being bent angularly into rigid flat-surface-contacting non-positive bonding relation as the blocks are set in place so as to dispose said blocks in proper spaced alignment to produce a continuous non-pierced sound deadening lining opaque to X-rays, said plate including anchor members at opposite sides for securely anchoring said plate in said body, each of said anchor members being stamped from the body of said lead plate and being flattened to overlap adjacent portions of said plate.

In testimony whereof I have affixed my signature.

DAVID H. BARRY.