E. E. FLETCHER.

PLASTER BOARD SUPPORT.

APPLICATION FILED JULY 7, 1917. RENEWED APR. 21, 1919.

1,307,814. Patented June 24, 1919.

Fig. 2

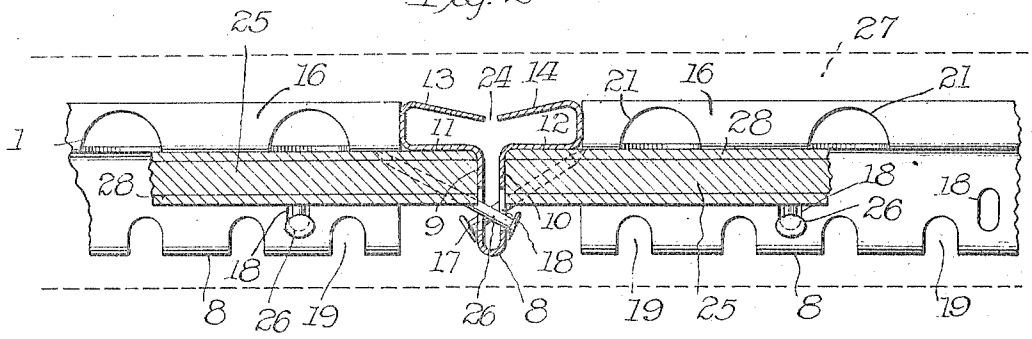


Fig. 3

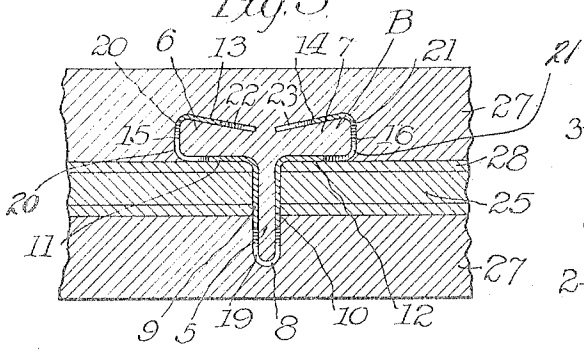


Fig. 1

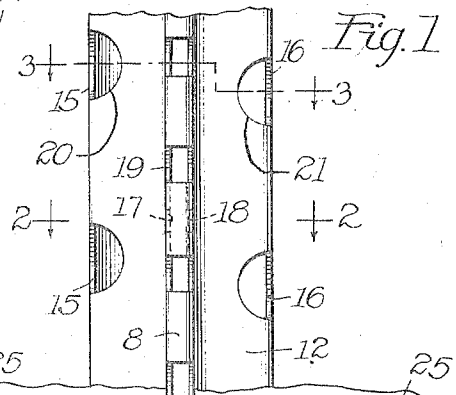
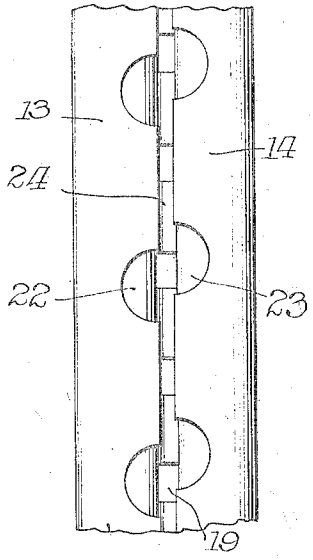
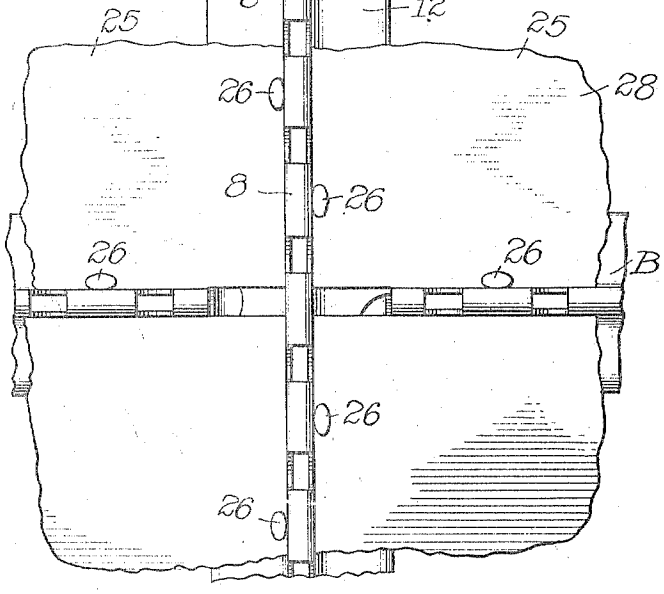


Fig. 4





Witnesses:

Leonard W. Novander.

Inventor

Ernest E. Fletcher

By James R. Offield. Atty

UNITED STATES PATENT OFFICE.

ERNEST E. FLETCHER, OF CHICAGO, ILLINOIS.

PLASTER-BOARD SUPPORT.

1,307,814. Specification of Letters Patent. **Patented June 24, 1919.**

Application filed July 7, 1917, Serial No. 179,132. Renewed April 21, 1919. Serial No. 291,723.

To all whom it may concern:

Be it known that I, ERNEST E. FLETCHER, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Plaster-Board Supports, of which the following is a specification.

My invention relates to improved supporting structures for plaster board for rigidly supporting the board for the application of plaster, cement, or other cementitious material in order to form a strong, durable and fire-proof wall.

One object of the invention is to produce metal supporting beams or ribs which can be readily arranged in the plane of the wall to be formed and which offer secure seating for the ends of the boards and to which the boards can be readily secured, preferably by means of nails. The beams or ribs are preferably of T-shaped cross section and bent up of sheet metal to provide seating flanges for the ends of the boards to be supported, suitable slots being provided through which nails can be driven into the ends of the boards to secure them, and sufficient openings being provided in the beams or ribs for the entrance of plaster in order that the plaster may obtain a firm clench hold, the beams or ribs acting as reinforcing for the wall and forming with the boards, plaster or cement thereon a rigid, fire-proof structure.

The construction of my invention is shown on the accompanying drawing, in which—

Figure 1 is a front elevational view of a section of a wall showing vertical and transverse supporting beams or ribs,

Fig. 2 is a view looking from plane 2—2, Fig. 1,

Fig. 3 is a sectional view on plane 3—3, Fig. 1, and

Fig. 4 is a rear view of a beam.

The beam B shown is bent up from a band of sheet metal into substantially T-form to have the web section 5 and the oppositely extending flange sections 6 and 7 at right angles with the web section. The blank is bent along its median section 8 at a short radius to produce the sides 9 and 10 of the web section 5. The halves are then bent along a substantially median line in opposite directions to form the walls 11 and 12 of the flange sections at right angles with the walls 9 and 10. These sections which are bent at right angles are then bent rearwardly along a substantially median line and then inwardly toward each other to form the flange end walls 13 and 14 and the connecting walls 15 and 16. Through the walls 9 and 10 of the web section opposed holes 17 and 18 appear at intervals, these holes being elongated in a direction transverse of the beam and forming nail slots. Between these nail slots the front end of the web section is notched at intervals as indicated at 19 and likewise the outer corners of the flange sections 6 and 7 are notched as indicated at 20 and 21. The inner ends of the walls 13 and 14 are also notched as indicated at 22 and 23. The various notches 19, 20, 21, 22 and 23 form clench openings for plaster through which the plaster may be pressed to clench against the inner faces of the various walls. To give additional clench surface the inner ends of the walls 13 and 14 may remain separated a distance to leave the gap 24 for the entrance of plaster.

The beams or ribs are mounted in the plane of the wall to be formed and plaster boards or panels 25 are applied thereto with their end sections abutting against the front walls 11 and 12 of the flange sections, and then nails 26 are driven in opposite directions through the slots 17, 18 and into the ends of the boards to hold them securely to the beams as best indicated in Fig. 2. If desired, horizontal beam lengths can be applied between the vertical beams to receive the upper and lower ends of the boards or panels. After the beams or panels have thus been secured together, plaster, cement, or other material 27 is applied to the boards and to the beams at both sides thereof and the plaster, being pressed through the various notches and openings in the beams, will clench against the inner faces thereof to be rigidly locked thereto. The wall boards shown have facings 28 of material which will give better cling surface to the plaster or cement and which will also strengthen the boards and prevent breakage thereof when nails are driven therethrough. The cement or plaster by clinging to the boards and clenching to the beams will rigidly lock these parts together and the boards, and particularly the beams, will reinforce and stiffen the wall and give the desired tensile and other strength thereto, and a strong, solid and fire-proof wall is formed. On account of the entire surrounding of the sheet metal beams by the plaster and the rigid clenching

engagement, and also on account of the cross-sectional shape of the beams, there is no chance for warping, bending or distorting of the beams under heat and the walls cannot therefore crack or crumble in case of fire. The ease and efficiency with which the boards can be nailed to the beams is an important feature of my invention.

I do not of course desire to be limited to the exact construction and arrangement which I have shown as changes could no doubt be made which would still come within the scope of the invention. I claim as follows:

A supporting and reinforcing element for plastic wall structures of T cross-section formed by bending a band of sheet metal along longitudinal lines to form a web section of two parallel but spaced apart walls and flange sections of parallel but spaced apart walls, the opposed walls of said web section having transversely extending elongated slots through which nails may be driven at angles with said web section to secure plaster board against said web and flange sections, and openings through said web and flange sections for the entrance of plaster between said walls.

In witness whereof I hereunto set my hand this 5th day of July, A. D., 1917.

ERNEST E. FLETCHER.