No. 647,872. Patented Apr. 17, 1900.

E. L. PEASE.

PANEL JOINT.

(Application filed July 31, 1899.)

(No Model.) 2 Sheets—Sheet 1.

FIG. 1.

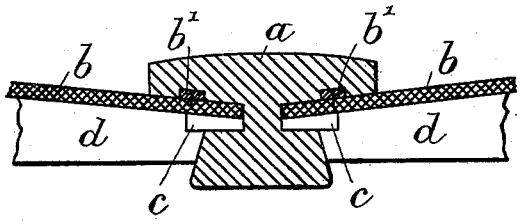


FIG. 2.

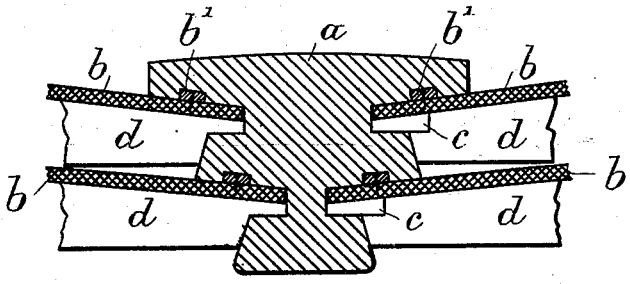


FIG. 3.

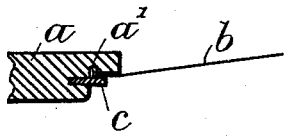


FIG. 4.

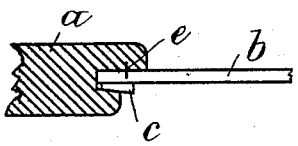
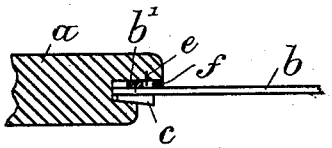


FIG. 5.



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E. L. PEASE.

PANEL JOINT.

(Application filed July 31, 1899.)

(No Model.) 2 Sheets—Sheet 2.

FIG. 6.

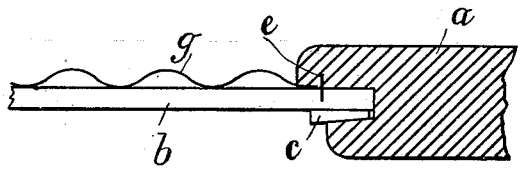


FIG. 7.

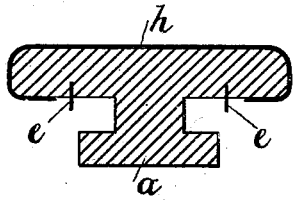


FIG. 8.

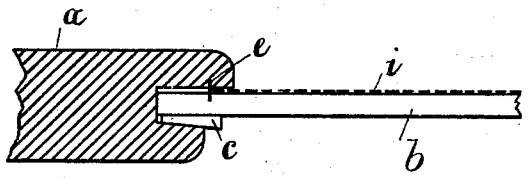
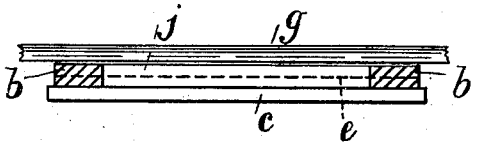


FIG. 9.



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UNITED STATES PATENT OFFICE.

EDWARD LLOYD PEASE, OF HURWORTH MOOR, ENGLAND.

PANEL-JOINT.

SPECIFICATION forming part of Letters Patent No. 647,872, dated April 17, 1900.

Application filed July 31, 1899. Serial No. 725,680. (No model.)

To all whom it may concern:

Be it known that I, EDWARD LLOYD PEASE, a subject of the Queen of Great Britain and Ireland, residing at Hurworth Moor, in the county of Durham, England, have invented certain new and useful Improvements in Structural Arrangements for Roofing, Walling, and the Like Structural Purposes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention comprises certain improvements and novel features which are applicable to roofing, walling, and the like as applied to structural purposes of the kind described in the specification of my Letters Patent No. 613,599, the construction being applicable to the formation of huts, arcades, railway and cattle sheds, or covered-in structures generally.

The object and result of my present invention are to secure in respect of the roof or wall covering greater simplicity of construction and cheaper production by which beams of wood and strawboard panels or other panels may be substituted for the slotted tubes and angle-strips or inset flanges hitherto used. Furthermore, I effect a more rigid connection between the main bearers and the strawboard panels locked into them, whereby greater strength and rigidity are imparted to the structure as a whole, the construction admitting of the parts being fitted together without the employment of nails, screws, or rivets, and when fitted together can be easily taken to pieces. To this end I adopt the construction represented in the accompanying drawings, which show the embodiment of my invention in a variety of forms, to which might be added others without departing from the scope of my invention. The forms shown are deemed sufficient to enable my invention and its practical utilization to be fully understood.

In the drawings, Figure 1 illustrates in transverse section a construction specially adapted to the roof or wall covering of a building; and Fig. 2 is a similar view to Fig. 1, showing the bearer with the recesses duplicated to take in a two-tier arrangement of panels. Fig. 3 illustrates an adaptation of the interlocking arrangement for steel panels having the edge turned up. Fig. 4 illustrates a modification of this when the panel is thick enough to insert a strip edgewise into a saw cut, and Fig. 5 is a similar view showing the like connection when the panel is too thin to take a saw cut for this purpose. Fig. 6 illustrates in transverse section a wall or roof construction in which a corrugated or plain sheet-cover is carried on a bearer locked into the main beam, and Fig. 7 illustrates the beam covered with sheet iron or steel. Fig. 8 is a view similar to Fig. 6, illustrating the panel with a felt covering; and Fig. 9 is a corresponding transverse view to Figs. 6 and 8, showing the making up between the cross-bearers when spaced apart to carry the sheet or felt covering.

In Fig. 1 the main beam or bearer *a* is preferably of wood, which is grooved or recessed on either side for the reception of the edges of the strawboard or other panels *b* and of a narrow wood or metal tongue *b'*, running the full length of the panel near the edge and nailed thereon. This tongue fits into a corresponding inverted groove cut into the under side of the head or top flanges of the bearer, so that a wedge *c*, driven in between the panel edge and bottom flange of the bearer, securely jams the panel in position between the flanges of the bearer, as shown. Stretchers *d* extend transversely between the bearers in contact with the strawboard or other panels and are formed with tongues on their ends, which are inserted, as shown in Fig. 2, into the same recess as the ends of the panels and in the same manner as the wedges *c*, so that the stretcher jams itself in the bearer and cannot be withdrawn therefrom. The panel is first put in position in the bearer, and then the stretcher is wedged in by its tongues, the interlocking being completed by the insertion of the wedges *c*. In the case of a roof construction should rain-water collect in the crevices formed between the bearer and the panel the water would have to percolate and rise above the wood tongue *b'*, nailed on the panel, before entering the building, thus affording additional security as a waterproof structure.

As illustrated in Fig. 2, the recesses of the bearers *a* may be duplicated to take in a dou-

ble-paneled arrangement, in which case the bearer is enlarged in sectional area to accommodate the additional slots or recesses, as already described with reference to Fig. 1, for the insertion of other panels and stretchers, the whole being interlocked by wedges *c*.

I do not limit myself to the use of pulpboard panels. These may be of steel, as shown in Fig. 3, in which case the construction is a wedge *c*, jamming against an upturned edge of the panel *b* within an undercut recess *a'* in the upper flange of the timber bearer *a*. Fig. 4 illustrates a modification of this in the case of a roof or wall construction in which the panel *b* is thick enough to take a saw cut. The under side of the flange of this beam or post and the upper surface of the panel are both saw-cut to receive the narrow metal strip *e*, which is inserted edgewise the full length of the panel, so that a wedge *c*, driven in between the under side of the panel edge and the bottom flange of the bearer, securely jams the panel in position between the flanges of the bearer, the whole being interlocked by the metal strip *e* and the wedge *c*.

In the case of the panel being composed of material too thin to take a saw cut, as shown in Fig. 5, and not adapted to have the edge turned up, as in Fig. 3, the wood strip *b'* is nailed on the panel *b* and inserted in the recess in the beam *a*. In this case the beam only is saw-cut to receive the strip of metal *e*, which extends the full length of the panel in contact with the wood strip *b'*, so that the whole is interlocked by the wedge *c*. The space formed between the panel and the under side of the beam may be suitably calked with lead wire *f* to make the joint weathertight.

Fig. 6 illustrates a wall or roof construction in which bars *b* are spaced apart to form bearers to the corrugated sheet-cover *g*, having its edges jammed in between the main beam *a* and the bearer *b*, the whole being interlocked, as before, by the metal strip *e* and wedge *c*, or, if preferred, a plain sheet-cover may take the place of the corrugated one, and the bearer *a* may be covered with a metal sheet *h* for further protection, as shown in Fig. 7.

Fig. 8 illustrates a similar form of construction to Fig. 6, in which the bearers *b* are spaced apart and protected by a felt cover *i*, having its outer edges jammed between the bearer *a* and the panel *b*, as before.

Fig. 9 is a sectional view corresponding to Figs 6 and 8, taken transversely between the bearers so spaced apart to carry the sheet or felt covering, in which *j* is a distance-piece having its upper surface saw-cut to correspond with the bearers *b b* to receive the metal strip *e*. This distance-piece and the ends of the bearers are placed in the recess of the main beam *a* and jammed up tight by the wedge *c*.

For conciseness of language and to avoid unnecessary enumeration of parts, I wish it to be understood that the term "panel" as employed in the claims is intended to include all the other covering devices and their equivalents, as hereinbefore referred to as serving the like purpose in describing the practical utilization of my invention.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In the construction of roofs, walls and the like portions of buildings, the combination with a beam or bearer recessed along its side edge; of a panel having one edge engaging within said recess; one wall of said recess having a longitudinal groove therein; a rib or tongue on the said panel arranged to engage within the said longitudinal groove, and means for securing the edge of the panel in said recess; substantially as described.

2. In the construction of roofs, walls and the like portions of buildings, the combination with a beam or bearer recessed along its side edge; of a panel having one edge engaging within said recess; one wall of said recess having a longitudinal groove therein; a rib or tongue on the said panel arranged to engage within the said longitudinal groove, and means for securing the edge of the panel in said recess consisting of a wedge inserted between the surface of the panel and the opposite wall of the recess in the bearer from that wherein the said groove is formed; substantially as described.

3. In the construction of roofs, walls and the like portions of buildings, the combination with a beam or bearer recessed along its side edge, and having a longitudinal groove in one wall of the said recess; of a panel having one edge engaging within said recess; a tongue or rib on said panel engaging said groove in one wall of said recess; and means for retaining the said rib or tongue on the panel within said groove, consisting of a wedge inserted between the surface of the panel and the opposite wall of the recess; substantially as described.

4. In the construction of roofs, walls and the like portions of buildings, the combination with a beam or bearer recessed along its side edge, and having a longitudinal groove in one wall of the said recess; of a panel having one edge engaging within said recess; a tongue or rib on said panel engaging said groove in one wall of said recess; means for retaining the said rib or tongue on the panel within said groove, consisting of a wedge inserted between the surface of the panel and the opposite wall of the recess; and a packing-strip between the outer surface of the panel and the outer wall of the recess in the beam or bearer; substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD LLOYD PEASE.

Witnesses:

GEORGE JAMES CLARKSON,

EDWARD THOMAS ELCOAT.