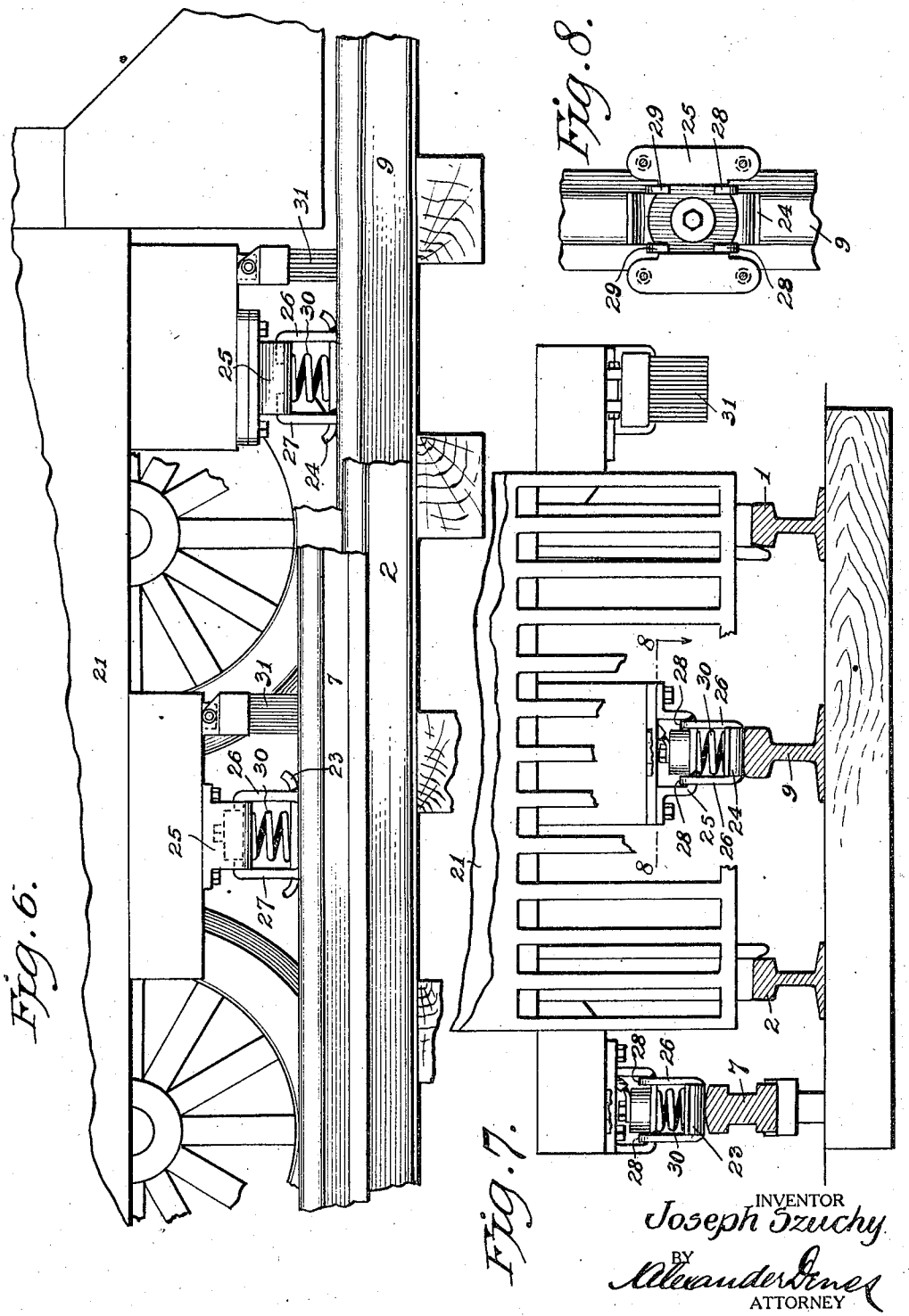
Aug. 9, 1927. 1,638,754

J. SZUCHY

TRAIN SIGNALING AND CONTROLLING SYSTEM

Filed June 19, 1923 5 Sheets-Sheet 3



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J. TYRA

METAL SPANISH TILE

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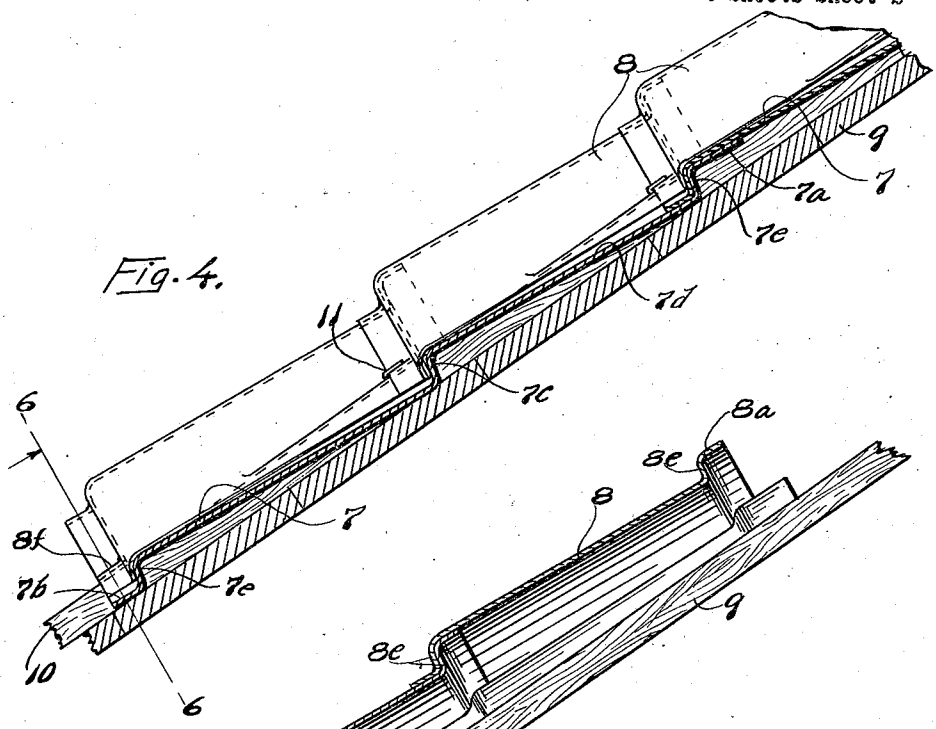


Fig. 4.

Fig. 5.

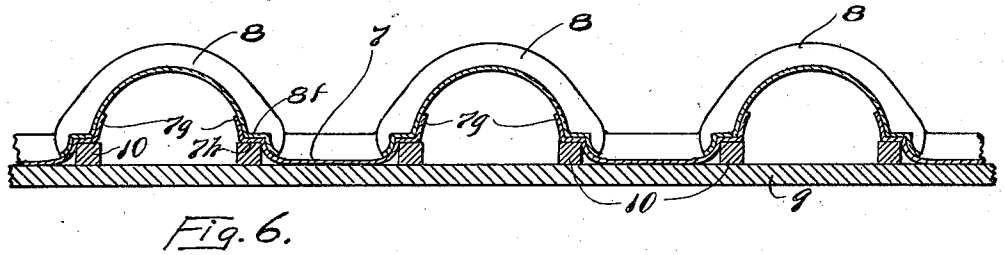


Fig. 6.

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UNITED STATES PATENT OFFICE.

JOSEPH TYRA, OF MINNEAPOLIS, MINNESOTA.

METAL SPANISH TILE.

Application filed April 13, 1925. Serial No. 22,782.

This invention relates to a roofing and particularly to a roofing comprising sections formed of sheet material, preferably metal, which sections are shaped to simulate Spanish tile. Tile roofing is open to some objections and the same is quite expensive.

It is an object of this invention therefore to provide a roofing of sheet material, preferably metal, which will be very strong, durable and efficient and which will simulate Spanish tile.

It is a further object of the invention to provide such a roofing comprising sections extending longitudinally upwardly and downwardly on the roof, which sections are substantially of flat trough shape in transverse section and which have their open or concave sides upwardly, said roof also comprising alternate sections of substantially semi-cylindrical shape having their convex sides disposed upwardly. The latter sections overlap the edges of the first mentioned sections and all of said sections fit together at their top, bottom and side edge portions.

It is also an object of the invention to provide a roofing comprising sections extending longitudinally upwardly and downwardly on the roof, which sections are in sets alternately arranged, the sections of one set each comprising a member of sheet material, preferably metal, which is substantially of flat trough-shape in transverse section having its open side disposed upwardly, the upper and lower edges of said section being offset upwardly and downwardly, respectively, and said member preferably having an intermediate downward offset therein.

It is another object of the invention to provide a roofing, as set forth in the preceding paragraph, the sections of the other set each comprising a member bent into substantially semi-cylindrical shape adapted to have its convex side disposed upwardly, said member tapering toward its upper end and having its upper and lower ends, respectively, offset upwardly and downwardly.

It is still another object of the invention to provide a roofing section of sheet material, preferably metal, which is substantially semi-cylindrical in shape and adapted to have its convex side disposed upwardly, said member tapering in diameter toward its upper end, having its upper end offset upwardly and its lower end offset downwardly, the offset upper end being of larger diameter than its adjacent portion and the offset lower edge being of smaller diameter than the adjacent portion, said member also having flat ledges formed adjacent its side edges, which ledges are substantially parallel to the plane of the roof and extend from the upper off-set portion longitudinally to an intermediate point in said member.

It is still another object of the invention to provide a roofing section comprising a member of sheet material, preferably metal, bent into substantially flat trough shape adapted to have its open side disposed upwardly, said member having its upper end offset upwardly and its lower end offset downwardly and having an intermediate downward offset therein, said member also having formed adjacent its side edges flat ledge portions extending substantially parallel to the plane of the roof.

These and other objects and advantages of the invention will be fully set forth in the following description made in connection with the accompanying drawings in which like reference characters refer to the same parts throughout the different views, and in which,

Fig. 1 is a perspective view showing the top of the roofing;

Fig. 2 is a top plan view of a portion of the roof;

Fig. 3 is a vertical section taken on the line 3—3 of Fig. 2, as indicated by the arrows;

Fig. 4 is a longitudinal vertical section taken on the line 4—4 of Fig. 1, as indicated by the arrows;

Fig. 5 is a vertical section taken on the line 5—5 of Fig. 2, as indicated by the arrows;

Fig. 6 is a vertical section taken on the line 6—6 of Fig. 4, as indicated by the arrows; and

Fig. 7 is a vertical section taken on the line 7—7 of Fig. 2, as indicated by the arrows.

Referring to the drawings, a roof is shown made of sections of sheet material, preferably metal, which sections overlap and are formed to fit snugly together at their adjoining edge portions, and said sections being formed to simulate the well known Spanish tile. The roof comprises two sets of similar sections, the section of one set being designated 7 and the sections of the other set being designated as 8. The sections 7, as shown, extend longitudinally upwardly and

downwardly of the roof and are bent into substantially flat trough-like shape in transverse section, as shown in Figs. 1, 3 and 6. The section 7 has its upper edge portion 7^a offset upwardly and its lower edge portion 7^b offset downwardly, and said section has an intermediate downward offset 7^c disposed substantially midway between the offsets of portions 7^a and 7^b. The intermediate portion 7^d in the bottom of the trough part of the section thus inclines downwardly relative to the plane of the roof toward the offset 7^c and the offset of the upper edge portion 7^a, as clearly shown in Fig. 4. The offset 7^c and the offsets 7^e, which latter are adjacent the end portions 7^a and 7^b may extend at various angles to the plane of the roof, but in the embodiment of the invention illustrated, the same are shown as extending at an angle slightly greater than a right angle to the plane of the roof. The plane of the roof is determined by the top and bottom surfaces of the sheathing 9 on which the roof sections 7 rest. The sections 7 are also formed adjacent their side edges and between the offsets 7^e and 7^c with flat ledges 7^f, which ledges extend substantially parallel to the plane of the roof and are most definitely formed adjacent the upper offset 7^e and the intermediate offset 7^c, said ledges extending longitudinally of the section and merging, more or less, into the side portions of the section at the upper side of offset 7^c and at the upper side of the lower offset 7^e. The side edges of the section 7, outward of the ledge 7^f are bent upwardly and somewhat outwardly on a semi-cylindrical surface and these curved edge portions are designated 7^g. Strips 10, rectangular or square in cross section, extend longitudinally upwardly and downwardly of the roof in spaced relation and the lower surface of the ledge 7^f of the section 7 rest upon these strips, the width of the section 7 thus determining the spacing of said strips and said strips being disposed in corners formed by the ledges 7^f and the curved side portion of the trough inwardly of ledges 7^f.

The sections 8 which co-operate with the sections 7 are generally of semi-cylindrical shape or of semi-circular shape in transverse section, said sections tapering in width toward their upper ends. The upper ends of sections 8 are upwardly offset as shown at 8^a and the diameter of the offset portion 8^a is considerably larger than the adjacent portion and is of substantially the same diameter as the thickest diameter of the section 8 which is adjacent the lower end of said section. The lower end of section 8 is offset downwardly and the lower offset edge portion 8^b is thus semi-cylindrical in shape and of much smaller diameter than the portion adjacent thereto at the lower end of said section. The members 8 also have flat ledges formed therein adjacent the upper offset end 8^a and adjacent their side edges, said ledges being designated 8^c. The ledges 8^c are widest and most clearly defined adjacent the offset of the upper end portion 8^a and extend longitudinally of the sections 8 tapering to substantially no width at an intermediate point in said section. The extreme side edge portions of the members 8 outside of the ledges 8^c are bent downwardly and outwardly on a substantially circular curve, as shown at 8^d. The offset portions 8^e adjacent the upper and lower ends of the sections 8 might be disposed at various angles, but in the embodiment of the invention illustrated, extend substantially at a right angle to the end and intermediate portion of said section. The ledges 8^c of the sections 8 extend substantially parallel to the plane of the roof or of sheathing 9 and, owing to the tapered shape of sections 8, the top line of said sections extend downwardly toward the plane of the roof toward the upper end of said sections. The lower offset end 7^b of section 7 also has ledges 7^h formed therein adjacent their side edges, which ledges 7^h are in alinement with and in substantially the same plane as the ledges 7^f. The sections 8, at their downward offset end portions 8^b also have ledges 8^f formed in said offset portions adjacent their side edges which ledges 8^f are alined with and in substantially the same plane as the ledges 8c.

In assembling, the sections 7 are put in place with the ledges 7^f thereof resting on the strips 10. The sections 8 are then put in place and the end of section 8 having the portion 8^b thereon fitting over the sides of the adjacent section 7 and the ledges 8^c thereof resting on the ledges 7^f of section 7. The sections 8 successively overlap and the lower ends of said sections having the reduced offset portion 8^b fit snugly over the upper ends of said sections having the upwardly offset end portions 8^a. The ledges 8^f in the lower offset portions of section 8 rest on and fit over the ledges 7^h in the lower offset portion 7^b of section 7, as clearly shown in Figs. 1, 2 and 6. The sections are secured and held in place by clips 11. These clips are placed on top of the ledges 8^c of sections 8 with their upper ends close to the offsets 8^e at the upper ends of said sections, and a nail is then driven through said clips through the ledges 8^c and the ledges 7^c into the strips 10. The clip 11 is of sufficient length to project beyond the lower edge of the ledge 8^f and said clip is then reversely bent and folded back onto the top of the ledge 8^f. Both sets of sections are thus held in position and the nail hole is covered so that there is no exposed opening through which moisture can pass under the roof. It will be seen that by the overlapping of said

sections, a continuous shed is provided for any rain or moisture getting on the roof and not only is this shed provided, but a substantially vertical offset is disposed under the overlapping portion so that moisture would not only have to pass upwardly of the ends of sections 8 but would also have to pass vertically over the offset portions of the sections before it could reach the inner side of the roof. The sections fit snugly and closely together, as shown in the drawings and a very tight, efficient and compact roof is formed. The material of the roof may be copper, tin, or sheet iron, and may be coated with suitable non-corrosive coating, such as used in galvanized metal and the roof, if of iron or tin, preferably will be painted after the same is secured in place. After painting, the roof will closely simulate Spanish tile and it is practically impossible to tell from the street whether the roof is made from tile or of sheet material. A very durable and efficient roof is produced. The parts of the roof are easily formed from the sheet metal blanks and, as described, the parts are capable of easy and quick assembly. A beautiful, ornamental and efficient roof is thus produced at a comparatively low cost. The roof of the present invention has been amply demonstrated in actual practice and found to be very successful and efficient.

It will, of course, be understood, that various changes may be made in the form, details, arrangement and proportion of the parts without departing from the scope of applicant's invention, which, generally stated, consists in a roof structure capable of carrying out the objects above set forth, and in the novel parts and combination of parts disclosed and defined in the appended claims.

What is claimed is:

1. A roofing of sheet material formed to simulate Spanish tile and comprising a section of substantially flat trough shape extending longitudinally upwardly and downwardly of the roof, and being offset upwardly and downwardly, respectively at each end, said section having flat ledges parallel to the plane of the roof formed adjacent its side edges between said offsets and having its edges curved upwardly and outwardly from said ledge, and semi-cylindrical sections of substantially the same width as said first mentioned sections, also having offset ends and flat ledges extending therebetween parallel with and adapted to overlie the edges of said trough-shaped sections respectively with said ledges in contact, all of said sections adapted to overlap adjacent sections at their ends.

2. A roofing of sheet material comprising sections formed to simulate Spanish tile, one set of said sections each comprising a member of substantially flat trough shape in transverse section extending longitudinally upwardly and downwardly of the roof with its open side disposed upwardly and the other set of said sections each comprising a member of substantially semi-cylindrical shape and of substantially the same width as said first mentioned section having its convex side disposed upwardly, said first mentioned member having an upwardly offset upper end, a downwardly offset lower end and an intermediate downwardly offset portion, and having flat portions adjacent their side edges disposed substantially paralliel to the plane of the roof, and said last mentioned member tapering upwardly and having its upper end portion upwardly offset and also having flat portions adjacent their side edges substantially parallel to the plane of the roof and its lower end portion downwardly offset, said offset end portions of said sections fitting together in overlapped relation and the last mentioned or semi-cylindrical sections overlapping the side edges of said first mentioned sections, said flat portions adjacent the edges of said semi-cylindrical sections overlapping said flat portions on said trough-shaped sections beng formed to fit together.

3. A section of a sheet metal roofing comprising a member of substantially semi-cylindrical shape, having an offset portion at one end of larger diameter than the adjacent portion and having an offset portion at its other end of smaller diameter than its adjacent portion, said member being tapered toward said first mentioned end and flat ledges formed at each side adjacent said offset and at the sides of said second mentioned offset, said ledges being substantially parallel to the plane of the roof and in substantially the same plane.

4. A section of a metal tile roof formed of sheet material bent to simulate Spanish tile comprising a member of substantially cylindrical shape adapted to be disposed with its convex side upward and tapered toward one end, its larger end having its terminal portion formed as a semi-cylindrical offset of reduced diameter and the smaller end having its terminal portion formed as a semi-cylindrical offset of substantially the same diameter as the largest diameter of said member, said member having a flat ledge formed adjacent each side edge having its widest portion adjacent said latter offset and tapering to substantially no width toward the larger end of said member, said member also having ledges substantially parallel to the plane of the roof formed in its offset terminal portion of reduced diameter adjacent the edges thereof, said ledges being substantially alined with and substantially in the same plane as said first mentioned ledges.

5. A section of metal tile roof formed from sheet material bent to simulate Spanish

tile comprising a member of substantially flat trough shape in transverse section adapted to be disposed with its open side upwardly and having its end portions offset in opposite directions and having flat ledges formed thereon adjacent its side edges, said ledges extending from adjacent its offset end portion longitudinally of said member, said member also having flat ledge portions formed in one of its offset end portions adjacent the side edges thereof.

6. A section of a metal tile roof formed of sheet material bent to simulate Spanish tile comprising a member of uniform width and having a longitudinally extending central portion of substantially semi-cylindrical shape adapted to be disposed with its convex side upwardly and tapered toward its upper end, said member having oppositely offset end portions and having a flat ledge adapted to extend substantially parallel to the plane of the roof formed adjacent each side edge, said ledges extending from one of said offset portions longitudinally of said member and tapering in width longitudinally of said member and said member having short flat ledges beyond said other offset in substantially the same plane as said first mentioned ledges.

7. A section of a metal tile roof formed from sheet material bent to simulate Spanish tile comprising a member of substantially flat trough shape in transverse section having its side edge portions curved outwardly with their convex surface uppermost, said member being adapted to be disposed with its open side upwardly having its upper edge portion offset upwardly and its lower edge portion offset downwardly and having an intermediate downwardly offset portion, said member being formed with flat ledges disposed substantially parallel to the plane of the roof within and adjoining said curved side edge portions, said ledges extending between said offset portions.

8. A section of a sheet metal roofing comprising a member of substantially semi-cylindrical shape, having an offset portion at one end of larger diameter than the adjacent portion and having an offset portion at its other end of smaller diameter than its adjacent portion, said section having a flat ledge at each side between said offset portions and a flat ledge at each side of said offset portion of smaller diameter.

In testimony whereof I affix my signature.

JOSEPH TYRA.