

L. G. BERRY.
 REINFORCED SHEET METAL PANEL.
 APPLICATION FILED JUNE 7, 1911.

1,096,218.

Patented May 12, 1914.

2 SHEETS—SHEET 1.

Fig. 1.

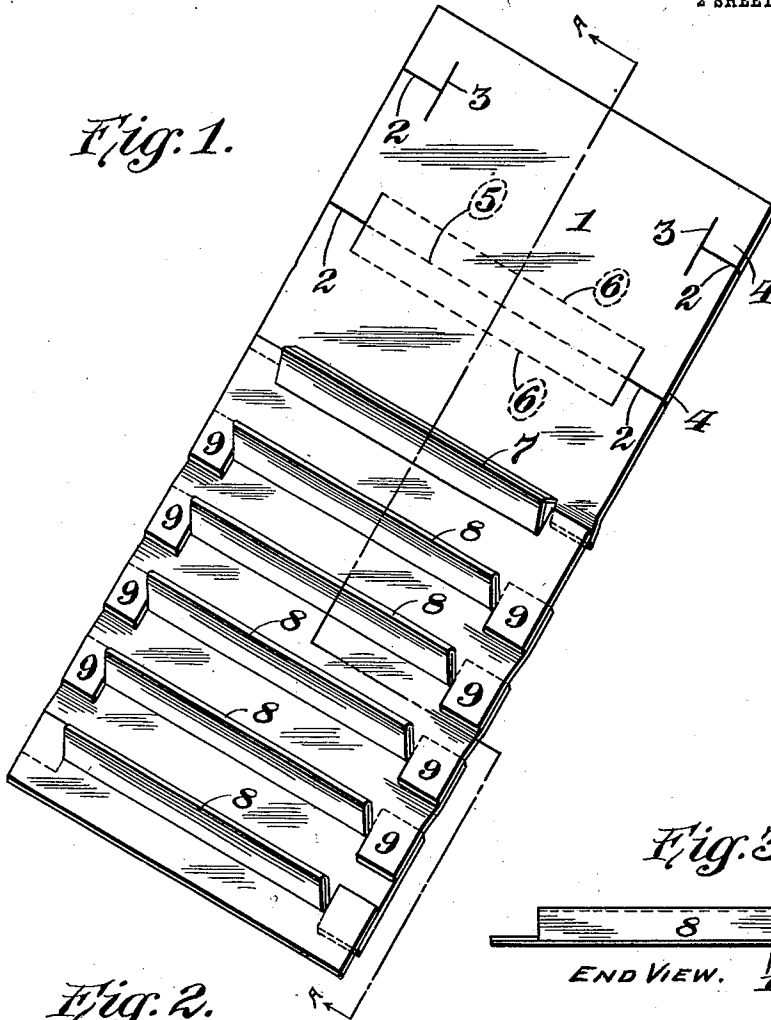


Fig. 2.

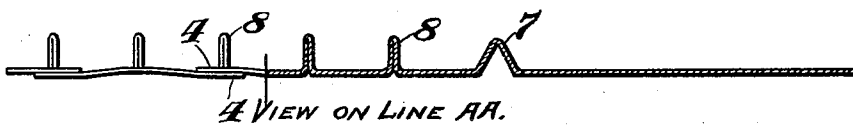
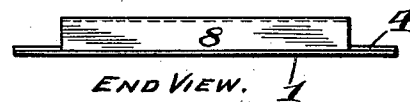


Fig. 3.



WITNESSES:

Chas. C. Becker,
Stella Hill.

Leslie G. Berry. INVENTOR:

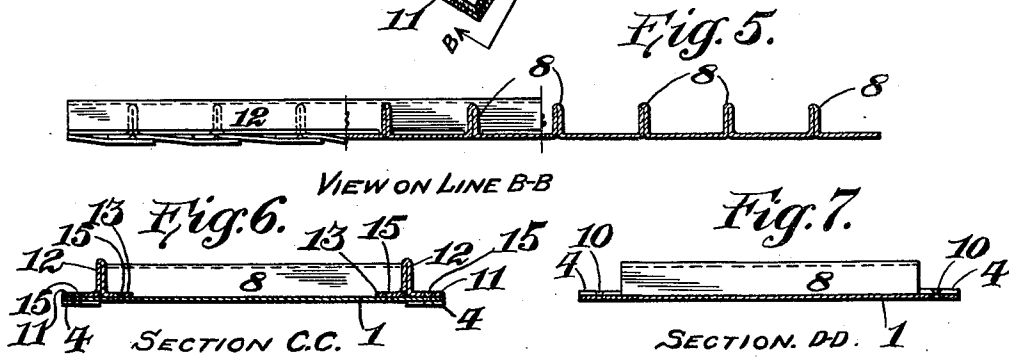
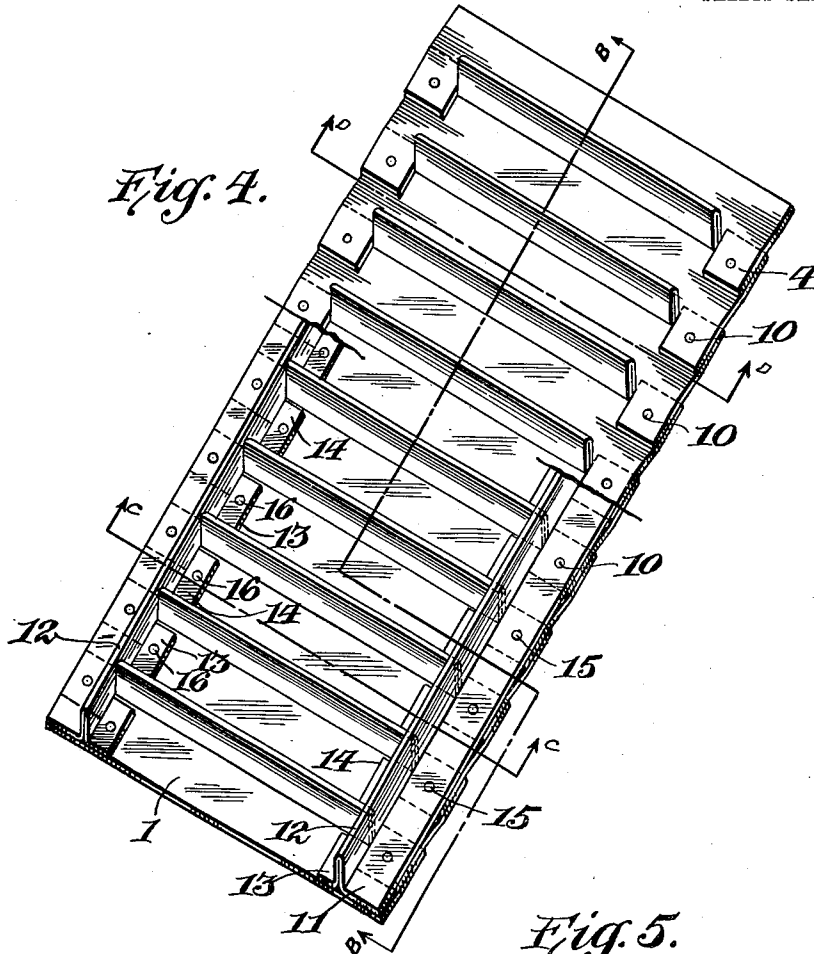
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Leslie G. Berry, INVENTOR:

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UNITED STATES PATENT OFFICE.

LESLIE G. BERRY, OF DES MOINES, IOWA.

REINFORCED SHEET-METAL PANEL.

1,096,218.

Specification of Letters Patent.

Patented May 12, 1914.

Application filed June 7, 1911. Serial No. 631,795.

To all whom it may concern:

Be it known that I, LESLIE G. BERRY, a citizen of the United States, residing in Des Moines, in the county of Polk and State of Iowa, have invented new and useful Improvements in Reinforced Sheet-Metal Panels, of which the following is a specification.

This invention relates to an improved reinforced sheet metal panel adapted especially for centering concrete floors, and has for its object to provide a novel construction of sheet metal panel which may be rapidly and economically manufactured, and which will be found strong, durable and convenient in use.

Essentially the invention consists in cutting a strip of material, such as sheet metal, in such manner that it may be bent at regular intervals, and the bent portions pressed or forced together to form strengthening ribs, while at the same time a projecting edge portion extending beyond the edge of the line of ribs will be afforded. These projecting portions at the sides of the strip are formed in part of over-lapping portions of the material through which rivets or similar fastening devices are passed for securing the bent portions of the strip in fixed position, as well as for strengthening the said projecting portions themselves. The panel as a whole may be further reinforced along its edge portion adjacent to the ends of the strengthening ribs by means of strips of metal at each side projecting between the ribs and having each a strengthening rib extending along the edges of the transverse strengthening ribs of the panel proper and projecting slightly above the same.

In the accompanying drawings—Figure 1 is a perspective view of a strip of material illustrating the various steps of cutting and bending the same, and over-lapping the material at the sides thereof; Fig. 2 is a section on the line A—A of Fig. 1; Fig. 3 is an end view of the panel; Fig. 4 is a broken perspective view of the complete panel, showing in the upper portion the over-lapping portions connected together, and in the lower portion the auxiliary reinforcing members secured in position at the sides of the panel; Fig. 5 is a section on the line B—B of Fig. 4; Fig. 6 is a section on the line C—C of Fig. 4; and Fig. 7 is a section on the line D—D of Fig. 4.

Referring now to the drawings, 1 indi-

cates a strip of sheet metal which, for the purpose of my invention, is slit or cut at intervals throughout its length on each side transversely of the sheet for a short distance, as indicated at 2, such cuts extending into the strip a distance equal to the width of the side flanges to be subsequently formed. At the inner end or termination of these transverse cuts the strip is cut longitudinally, as indicated at 3, these latter cuts extending an equal distance on each side of the cuts 2 and being in length substantially double the height of the strengthening ribs to be subsequently formed by bending the strip as hereinafter described. The cuts 2 and 3 provide tongues 4. After cutting a strip in the manner described throughout its length it is next bent outward at intervals on an imaginary line 5 connecting the corresponding cuts 2 on opposite sides of the strip, and also at right angles to the body of the strip along an imaginary line 6 connecting the ends of the cuts 3 on opposite sides of the strip. This bending of the strip may be done by suitable machinery which need not be described, and if found desirable the strip may be indented or creased along the lines shown before being actually bent. This bending outward of the strip along the lines indicated is shown at the initial stage at 7 in Fig. 1, at which point also it will be seen that the tongues 4 are caused to overlap and pass the one over the other, and finally the two sides of the bent up portion are brought together to form a series of transverse ribs, as indicated at 8. At the same time the tongues 4 have been caused to completely overlap each other, such overlapping portion being indicated at 9, and being directly at the ends of each strengthening rib and extending an equal distance on each side thereof. The over-lapping tongues 4 are next riveted, or otherwise secured together, as indicated at 10. In order to reinforce the support along the lines of the ends of the strengthening ribs 8, where it would be most likely to tear or cut, I provide a longitudinal strip 11 which is bent upon itself to form a longitudinally extending strengthening rib 12 and flange members 13, said flange members being formed by cutting the strip at intervals throughout its length to form recesses to receive the ends of the ribs 8, as indicated at 14, so that the flange members 13 can pass a suitable distance in between the

respective strengthening ribs 8. The portion 11 of the auxiliary reinforcing strip is continuous and is laid upon the overlapping tongues 4 and riveted through the same, as indicated at 15. As shown by Fig. 5, the ribs 12 of the auxiliary reinforcing strips are slightly higher than the strengthening ribs 8, so that said ribs 12 not only strengthen the panel as a whole and tend to prevent its bending transversely, but these ribs also tend to protect the strengthening ribs 8 from being bent over or bent down in the usage of the panel. That is to say, should the panel be thrown to the ground from any considerable height if the ribs 12 were not provided one or more of the strengthening ribs might hit the ground and be bent over or flattened. The flange members 13 are also secured by rivets 16 passed through them and the body of the strip 1.

As will be seen, the construction provides a panel having transverse strengthening ribs and at the ends of these ribs, and extending longitudinally throughout the length of the strip, side flange members, formed by the overlapping tongues 4 and the base of the auxiliary reinforcing strip 11, said side flanges being adapted to rest upon suitable girders or beams with the ribs 8 projecting downward between them.

It will be understood that a number of these panels will be used and after being placed in position upon temporary supports or girders the concrete is poured on to form the floor and allowed to harden or set. After this is done the supports and panels are removed and the latter can be used over and over again as a temporary supporting means for the concrete.

By referring to slitting or cutting the strip I desire to include simply cutting the metal as with a knife, or cutting away and removing a certain portion of the material in order to permit the cut edges of the material to pass each other freely in bending the strip to form the ribs and overlapping portions.

I claim:

1. A reinforced sheet metal panel comprising a strip of metal bent upon itself to form transverse strengthening ribs terminating short of the sides of said strip, the said strip, at the ends of each rib, having overlapping members extending beyond either side of the rib and at right angles thereto, and forming continuous flat supporting flanges at each side of the panel extending from end to end thereof.

2. A reinforced sheet metal panel comprising a strip of metal bent upon itself to form transverse strengthening ribs terminating short of the sides of said strip, the said strip, at the ends of each rib, having connected members extending beyond either side of the rib and at right angles thereto,

and forming continuous flat supporting flanges at each side of the panel extending from end to end thereof.

3. A reinforced sheet metal panel comprising a strip of metal bent upon itself to form parallel transverse strengthening ribs terminating short of the sides of the strip and projecting wholly from one side thereof, the strip being first suitably cut to thereby provide members at the ends of each rib overlapped longitudinally of the strip, and extending beyond either side of the rib, which said members are riveted together to form a continuous supporting flange at each side of the panel extending from end to end thereof.

4. A reinforced sheet metal panel comprising a strip of metal suitably cut, and then bent upon itself to form at intervals throughout its length transverse strengthening ribs terminating short of the sides of the strip, and longitudinally-extending, flat overlapping portions at the ends of each rib, said strengthening ribs extending transversely of the strip in parallel relation throughout substantially the whole length of the strip and being located wholly on one side thereof, and said overlapping members forming a continuous supporting flange at each side of the panel extending from end to end thereof.

5. A reinforced sheet metal panel comprising a strip of metal cut and bent upon itself to form parallel, transverse strengthening ribs terminating short of the sides of the strip, and an auxiliary reinforcing member having a flat portion extending throughout the length of the strip on each side thereof adjacent to the ends of said ribs and secured to the strip, a longitudinal strengthening rib extending along and located adjacent to the ends of said transverse ribs, and projecting flange members located at the base of said longitudinal rib, and extending between said transverse ribs and secured to the strip.

6. A reinforced sheet metal panel comprising a strip of metal cut and bent upon itself to form parallel transverse strengthening ribs terminating short of the sides of the strip, and an auxiliary reinforcing member having a flat portion extending throughout the length of the strip on each side thereof adjacent to the ends of said ribs and secured to the strip, a longitudinal strengthening rib of greater height than said transverse ribs extending along and located adjacent to the ends of said transverse ribs, and projecting flange members located at the base of said longitudinal rib and extending between said transverse ribs and secured to the strip.

7. A reinforced sheet metal panel comprising a flat strip of metal bent upon itself to form transverse strengthening ribs termi-

nating short of the sides of said strip whereby to provide longitudinally-extending supporting flanges at the sides of the strip and substantially in the plane thereof.

5 8. A reinforced sheet metal panel comprising a flat strip of metal bent upon itself to form transverse strengthening ribs, and flat supporting flanges extending longitudinally of the strip on each side thereof and
10 projecting beyond the ends of said ribs substantially in the plane of the strip.

9. A reinforced sheet metal panel comprising a flat strip of metal having trans-

verse strengthening ribs, and supporting flanges extending longitudinally of the strip 15 on each side thereof and projecting beyond the ends of said ribs substantially in the plane of the strip.

In testimony whereof, I have hereunto set my hand in presence of two subscribing witnesses. 20

LESLIE G. BERRY.

Witnesses:

BRUCE S. ELLIOTT.

STELLA HILL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."