L. H. DICKELMAN.

METAL BUILDING PLATE.

APPLICATION FILED JULY 3, 1915.

1,226,477. Patented May 15, 1917.

FIG. 1.

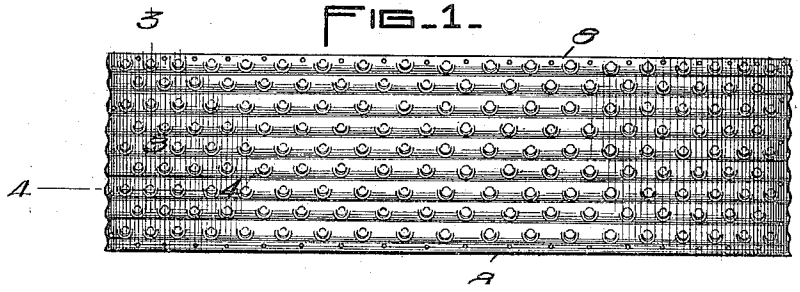


FIG. 2.

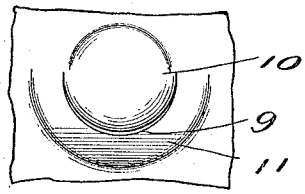


FIG. 3.

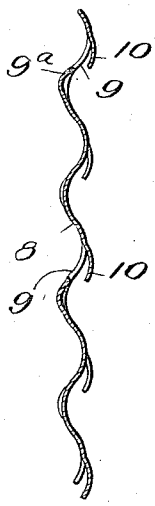


FIG. 4.

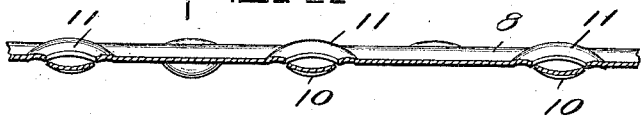


FIG. 5.

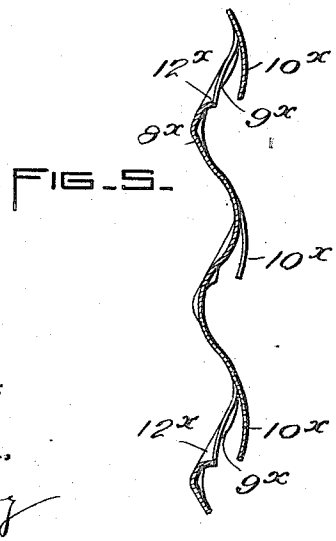
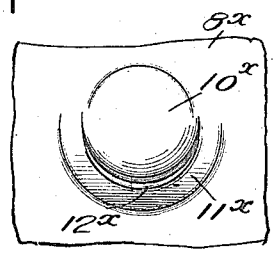


FIG. 6.



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METAL BUILDING-PLATE.

1,226,477. Specification of Letters Patent. Patented May 15, 1917.

Original application filed October 13, 1914, Serial No. 866,435. Divided and this application filed July 3, 1915. Serial No. 37,976.

To all whom it may concern:

Be it known that I, LIZZIE H. DICKELMAN, a citizen of the United States, and a resident of Forest, in the county of Hardin and State of Ohio, have invented certain new and useful Improvements in Metal Building-Plates, of which the following is a specification.

My invention relates to improvements in metal plates for building purposes, and it consists in the combinations, constructions, and arrangements herein described and claimed.

An object of my invention is to provide a metal building plate which may be used for forming corn cribs, storage bins, or other similar structures in which ventilation is necessary.

A further object of my invention is to provide a plate of the type described having means for ventilating the structure of which the plate forms a component part, and also means for preventing the entrance of rain or snow.

A further object of my invention is to provide a metal building plate which is exceedingly durable owing to its peculiar construction and which is so formed that injury to grain or other articles which are stored in bins made of the plate, is reduced to a minimum.

Other objects and advantages will appear in the following specification and the novel features of the invention will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawings forming part of this application in which—

Figure 1 is a face view of a sheet formed in accordance with my invention.

Fig. 2 is a face view showing in detail the manner of forming the ventilating openings.

Fig. 3 is a section on the line 3—3 of Fig. 1.

Fig. 4 is a section along the line 4—4 of Fig. 1.

Fig. 5 is a section through a modified form and

Fig. 6 is a face view similar to Fig. 2 of the modified form shown in Fig. 5.

This application, as far as the structure shown in Figs. 1 to 4 inclusive is concerned, is a division of a prior application, Serial 866,435, filed October 13, 1914. In said prior application I disclose a corn crib which is made of plates which form the subject of the present invention.

In Fig. 1 I have shown a plate consisting of an oblong piece of metal 8 of suitable material, such as galvanized iron, stamped so as to provide a series of longitudinal corrugations. In Fig. 1 this plate is shown as being curved, but it will be obvious that the plate might be a substantially flat plate when taken as a whole, without departing from the spirit and scope of the invention. A series of openings 9 is punched or stamped from the metal plate in such a manner as to provide a curved or embossed lip 10, see Fig. 2. It will be observed from this figure that this opening 9 is disposed on the underside of one of the longitudinal corrugations, so that it is protected from rain, not only by the lips which project downwardly substantially to the bottom of the opening, but also by the fact that it is on the under side of the longitudinal corrugation. The metal is stamped underneath the opening 9 and substantially concentric with the lower edge of the opening, so as to form a semi-circular depression or trough 11.

The corrugating of the sheet metal plate, the embossing of the lip 10, and the provision of the trough 11 which of course makes a ridge on the inner side of the plate, tends to strengthen the plate and to prevent the buckling of the latter under pressure, as well as to afford ventilating openings and a means of protection from the weather.

A building constructed of plates of the type described, especially a corn crib or other storage bins, has the following advantages: The narrow space between the edge of the lip 10 and the lower edge of the opening 9, is too small for mice or rats to enter. At the same time the openings are numerous enough to provide plenty of ventilation.

Consider now the action as far as rain, sleet, or snow is concerned. The openings being on the under side of the corrugations, are to a great extent protected from rain, but if the water should flow down onto the lip it will be carried free of the opening. Furthermore, as will be seen from Fig. 2, the lip is substantially on a level with the lower edge of the opening 9, so that unless the rain is driving in almost horizontally, it will be prevented from entering. If the water should flow to either side of the open-

ing, it would be conducted down past the opening by the trough 11.

In Figs. 5 and 6 I have shown a modified form of the plate in which the body portion $8^{\times}$ is provided with an opening $9^{\times}$ a lip $10^{\times}$, and a trough $11^{\times}$, there being a portion of the metal bent outwardly in crescent shape between the top of the trough 11 and the bottom of the opening 9 as shown at $12^{\times}$. The purpose of this is three-fold. It forms an additional strengthening device; it prevents the spattering of rain upwardly through the opening, while the main purpose is to provide the opening with a comparatively smooth edge. In Fig. 3 it will be observed that the bottom of the opening 9 forms an edge which is curved outwardly. While I have found in practice that there is little danger of this edge cutting grain such as ears of corn, at the same time in order to insure that none of the grain shall be so cut, I provide this outwardly bent portion $12^{\times}$ which makes it practically impossible for an ear of corn to catch on the lower edge of the opening, because of the fact of the inclined portion $12^{\times}$.

I claim:—

1. As an article of manufacture, a metal building plate comprising a metal sheet having a series of horizontal rows of ridges and depressions, said ridges being provided on their outer under sides with a series of rows of perforations, the edges of the perforations being substantially semi-circular, an integral downwardly and outwardly extending lip disposed above each of said perforations, and a substantially semi-circular trough or depression below each of the perforations, the ends of said trough being substantially in alinement with the end of said semi-circular perforation and the inner edges of the trough or depression intersecting the semi-circular perforation substantially at the ends of said perforations.

2. As an article of manufacture, a metal building plate having a series of horizontal rows of ridges and depressions, each of said ridges being provided with a plurality of perforations on the under side of the ridge, said perforations being of substantially semi-circular form, and each of said perforations being surmounted by an outwardly and downwardly inclined embossed lip, and a second lip underneath the edge of the perforation or opening, said second lip being outwardly and upwardly inclined.

3. As an article of manufacture, a metal building plate having a series of horizontal rows of ridges and depressions, each of said ridges being provided with a plurality of perforations on the under side of the ridge, said perforations being of substantially semi-circular form, and each of said perforations being surmounted by an outwardly and downwardly inclined embossed lip, a second lip underneath the edge of the perforation or opening, said second lip being outwardly and upwardly inclined, and a trough or depression immediately below said second named lip.

LIZZIE H. DICKELMAN.

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