

W. H. CADWELL.
PROCESS OF MAKING FLOOR AND CEILING PLATES.
APPLICATION FILED MAY 13, 1919.

1,365,889.

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Fig. 1

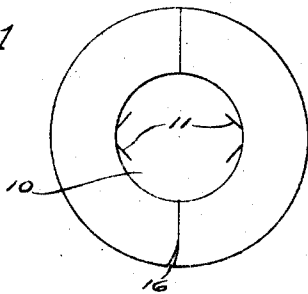


Fig. 2

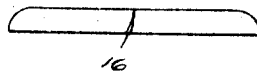


Fig. 3

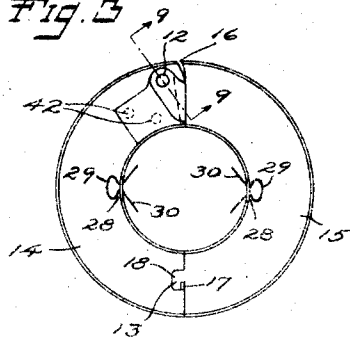


Fig. 4

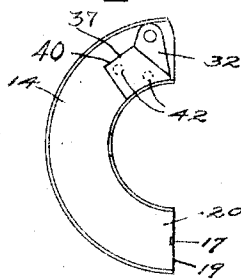


Fig. 5

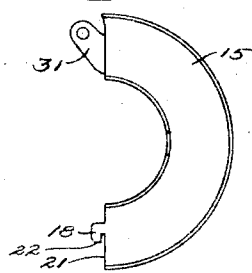


Fig. 6

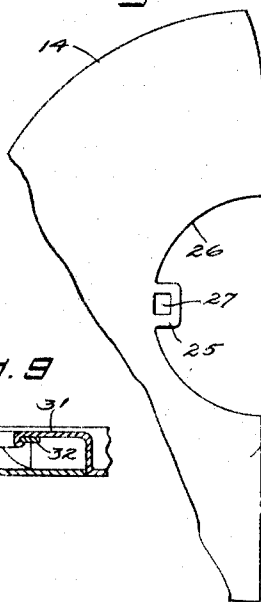


Fig. 7

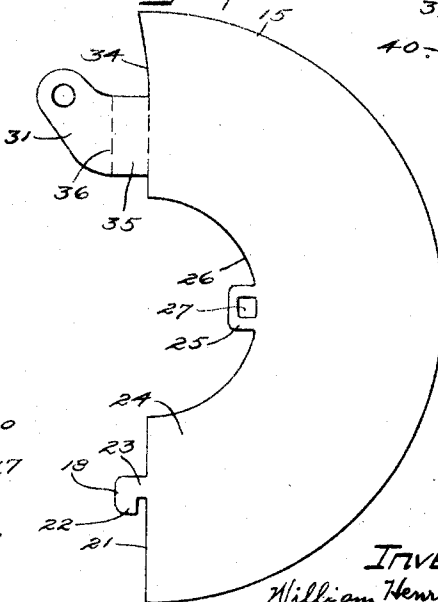


Fig. 8

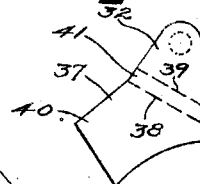
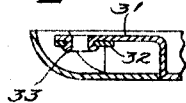


Fig. 9



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UNITED STATES PATENT OFFICE.

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PROCESS OF MAKING FLOOR AND CEILING PLATES.

1,365,889.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM HENRY CADWELL, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Processes of Making Floor and Ceiling Plates, of which the following is a specification.

My invention relates to improvements in processes of making floor and ceiling plates and the object of my improvement is simplicity and economy in construction and convenience and efficiency in use, and having particular reference to floor and ceiling plates that are made of sheet material.

In the accompanying drawing:—

Figure 1 is a plan view of a floor and ceiling plate embodying my improvement.

Fig. 2 is an edge view of the same.

Fig. 3 is a bottom view of the same.

Fig. 4 is a plan view of the left body member or side member with one of the hinge members secured thereto by welding.

Fig. 5 is a similar view of the right side member.

Fig. 6 is a plan view on an enlarged scale of the blank for the left side member.

Fig. 7 is a similar view of the right side member.

Fig. 8 is a plan view of the blank for the left hinge member.

Fig. 9 is a sectional view of the hinge construction on the line 9—9 of Fig. 3.

The floor and ceiling plate made by my improved process corresponds in exterior appearance to other floor and ceiling plates in common use, comprising a shell-like structure of annular form, the opening 10 being suitable for admitting a pipe and being provided with a pair of springs 11 for engaging with the said pipe, the structure being composed of two generally similar parts that are connected together at one end by a hinge connection 12 that forms a permanent connection of the parts and having at the other end a separable connection 13 in the form of a latch.

The said parts comprise the left part 14 and the right part 15 each of which is made of sheet material and which have opposed abutting edges that meet for the most part along a diametral line with a slight deviation from the diametral direction on the

side of the hinge 12 that is of curved form as indicated at 16 to permit of relative pivotal movement of the parts with the pivotal axis of the hinge positioned to one side of the diameter, as shown.

The latch 13 is composed of latch members that are integral with the main parts 14 and 15 and connected to the opposed edges thereof comprising a keeper 17 in the form of a lug and a latching member 18 of hook form for engaging with the said lug.

The said keeper or holding lug 17 is integral with the the left main part 14, extending outwardly from the edge 19 thereof in the blank, and is bent substantially at a right angle to the body portion 20 of the said main part 14 to the holding position.

The latching member 18 is connected to the edge 21 of the right main part 15 and comprises a radially directed nose 22 that is connected to the said edge 21 by a short connecting neck 23, and is tilted at an angle to the body portion 24 of the said right main part 15 and is constructed and arranged to snap over the lug 17 for being brought into engagement therewith and disengaged therefrom.

The springs 11 are operatively supported by means of a perforated lug 25 that is integral with a part of the semi-circular border edge 26 of the opening 10. The said lug 25 extends outwardly from the said border edge 26 in the blank and is bent upwardly at about a right angle to the body portion 20 or 24 of the main plate part to which it is connected to the holding position. The said lug 25 has an opening 27 that is of suitable form and size for operatively housing the reduced neck portion 28 of the spring 11. The said spring 11 comprises on the inner side of the said neck portion 28 a head portion 29 of loop form and has on the outer side thereof a pair of arms 30 that are divergent and extend into the space 10 for the pipe.

The hinge 12 is composed of a pair of overlapping members comprising the outer hinge member 31 and an inner hinge member 32 that are pivotally connected together by means of an eyelet rivet 33 that is integral with the said outer member 31, as shown.

In lieu of the integral eyelet rivet 33 shown some other form of pivotal rivet may

be used, such, for instance as an ordinary solid rivet.

The outer hinge member 31 is integrally connected with the edge 34 of the right main part 15 by means of an intermediate connecting piece, the parts being bent along the said line 34 and also along the folding line 36 so as to position the said outer hinge member 31 so as to overhang the adjacent portion of the left main part 14 and also in spaced relation thereto, as shown.

The inner hinge member 32 that is connected to the left main part 14 is in the form of a separate piece 37 that is made of sheet material that is bent along the folding lines 38 and 39 to bring the inner hinge portion 32 in proper position to cooperate with the outer hinge portion 31. The said piece or plate 37 is composed of the inner hinge portion or member 32 at one end, the body portion 40 at the other end and the intermediate connection portion 41 between the folding lines 38 and 39.

The said body portion 40 is secured to the inner face of the body portion 20 of the left main part 14, and the manner of doing this is preferably by means of a plurality of spot welds, as indicated at 42.

As a detail in the process of manufacture I secure the left hinge member 32 to the hinge member 31 by means of the hinge connection 12 as the first step in the assembly of the main parts 14 and 15 and complete the assembly by securing the hinge plate 37 to the left main part 14 by means of the spot welds 42 described.

As described the plate proper, aside from the springs 11, is made of three parts of sheet material.

These parts comprise as one the right main part and the right hinge plate integrally connected therewith and positioned in the final form so as to extend generally outwardly from one edge of the right main part, so as to overhang the opposed portion of the left main part, the axis of the hinge connection being off-set to one side of the axial plane of the meeting edges of the two main parts. This composite part is cut and

shaped by simple methods because the construction avoids double bending and overhanging portions. The advantages of this particular structure are well known in the art.

The other two parts comprise the left main part by itself, without the integrally connected hinge plate, as in the case of the right main part, and the left hinge plate as a separate piece, that constitutes the third part.

Thus the left main part and the left hinge plate are made as separate parts and finally connected so as to operate as a unit. I find that the apparent disadvantage or loss involved in the plan mentioned is overcome by advantages in two respects, both of which follow because of the off-set position of the axis of the hinge connection described.

In case the parts were constructed integral a U-shape or return bend would be involved in forming the parts, which would require two operations in forming, and the operation would not be simple, as in the case of the right main part and the right hinge plate. This represents one advantage.

The other resides in the operation of riveting the parts or members of the hinge connection. In case the parts were integrally connected the left main part would be in the way in the riveting operation and would obstruct the tools that are used. With the left main part omitted and out of the way previous to riveting there is no such obstruction in the riveting operation.

I claim as my invention:—

The herein described process of making floor and ceiling plates, consisting in forming two semi-annular plate sections, having abutting edge portions to form a ring, one of said plate sections formed at one of the abutting edge portions with an integral hinge member adapted to overlap the other plate section, providing and pivotally connecting by means of a pivotal rivet with the first named hinge member, a second hinge member and securing the second hinge member to the second named plate section.

WILLIAM HENRY CADWELL.