H. J. ROBINSON.

FLOOR AND CEILING PLATE.

APPLICATION FILED MAR. 6, 1909.

957,000. **Patented May 3, 1910.**

Fig. 1

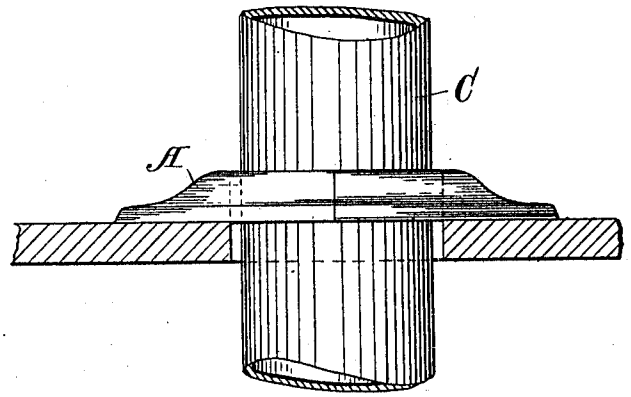


Fig. 2

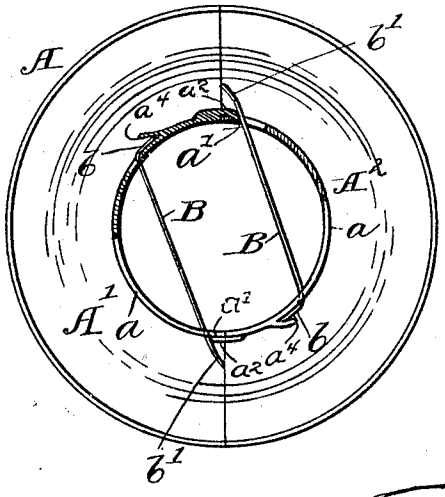


Fig. 3

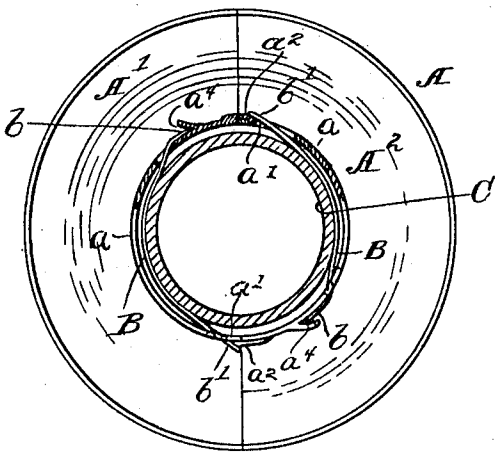
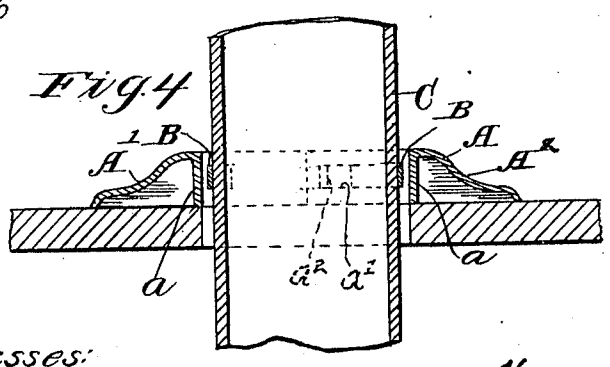


Fig. 4



Witnesses:

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UNITED STATES PATENT OFFICE.

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FLOOR AND CEILING PLATE.

957,000. Specification of Letters Patent. Patented May 3, 1910.

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To all whom it may concern:

Be it known that I, HENRY J. ROBINSON, a citizen of the United States, and a resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in Floor and Ceiling Plates, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle so as to distinguish it from other inventions.

Plates, or similar devices, for inclosing pipes and the like where they pass through floors and ceilings, in order to cover the aperture provided therefor in such floor or ceiling, are generally made in sections in order to more conveniently permit them to be applied. More or less difficulty, however, is obviously encountered in providing efficient means for securing such sections together.

The present invention hence has been designed with the object of providing, in connection with sectional plates of the character just referred to, holding or fastening means that while simple and inexpensive in construction, will, nevertheless, serve not only to effectively retain the parts of the plate together, but also so grip the pipe or equivalent object so as to hold the assembled plate in desired position thereon.

To the accomplishment of these and related objects, said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims.

The annexed drawing and the following description set forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawings:—Figure 1 is a side elevational view of a pipe and one approved constructional form of my plate in place thereon, the adjacent floor, or ceiling, being represented in section; Fig. 2 represents the plate in assembled condition, without, however, a pipe being interposed between the sections thereof, portions of the flange that surrounds the central opening being broken away as indicated by the hatching; Fig. 3 is a view similar to Fig. 2 but with a pipe thus interposed; and Fig. 4 is a central vertical section of the device as applied to such pipe.

The plate designated in its entirety by reference letter A, is preferably of the usual annular form, and may be either stamped of sheet metal or cast as desired, its upper face being made more or less ornate, depending upon the place in which it is to be used. Said plate, as usual, is made in two sections A' A^2 which sections I contemplate shall be similar in all their details, so as to be interchangeable and thus obviate the necessity of pairing the parts previously to assembling them. The sections are provided on their inner edges with flanges a which in the construction shown extend downwardly, although this is a matter of indifference, since they may extend upwardly just as well. The opposite ends of the flange of each section are provided with a recess a' and with a projecting lug a^2, respectively, the recess and lug of a section being complementary with respect to those of any other section, so that, when two sections are brought together their recesses and lugs will loosely intergage, as shown in Fig. 2. In the flange of each section I furthermore mount on edge a flat spring member B that in its normal condition is substantially straight, so as to lie as a chord transversely of the central opening in the plate when the sections are assembled. One end b of each spring member is secured to the flange, preferably by being bent and then inserted in a suitable recess a^4 provided therefor in flange a at a point adjacent to the intergaging lug a^2, while the other free end b' of said spring member projects through an opening adjacent to, or (as shown) more conveniently incorporated in the recess or opening a' wherewith the lug of the complementary section is adapted to engage. This free end of the spring is desirably slightly curved, as shown in Fig. 2, so that when the body of the spring lying within the central aperture of the plate is pressed outwardly by the interposition of the pipe C or like object, such end is drawn in against the lug in question; the result of this is to retain the lug securely in its engaging position with the recess (see Fig. 3).

It will be understood that the pipe is already in place before the sectional plate is applied thereto. The two sections are placed with their adjoining straight edges together, the lugs being at this point positioned inside the extending free end of the spring. The two sections are then moved on a line parallel to the line of separation between

them, and it will thus be seen that the lugs are free to move into the recesses which are then in alinement with them, and that the springs immediately snap on the lugs to hold them securely in the recesses. The operation of assembling, however, it will thus be seen, is very easily accomplished, being an incident, in other words, of the bringing together of the plates about the pipe, since it is the interposed pipe itself that renders the springs effective to grip the sections together. It will likewise be obvious that there will be little tendency for the plates to come apart, while at the same time, by reason of the resilient character of the spring members they grip the pipe sufficiently to hold the plate in place, irrespective of whether it is otherwise supported or attached. This is a particularly desirable feature when the device is used as a ceiling plate, it being unnecessary to provide special means for retaining the plate against the ceiling. These special structural advantages taken in connection with the interchangeability of the sections, render the plate well adapted for the purpose in hand, aside from its inexpensiveness in manufacture.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:—

1. A plate for inclosing pipes or the like, made in sections; elements borne by said sections adapted to loosely intergage when the latter are properly assembled; and means contacting with one of said elements and adapted to retain said elements in engagement, said means being rendered operative only by the interposition of a pipe between said sections.

2. A plate for inclosing pipes or the like made in sections; elements borne by said sections adapted to loosely intergage when the latter are properly assembled; and resilient means contacting with one of said elements and adapted to retain said elements in engagement, said means being rendered operative only by the interposition of a pipe between said sections.

3. A plate for inclosing pipes or the like made in sections; elements borne by said sections adapted to loosely intergage when the latter are properly assembled; and a spring member borne by each of said sections and contacting with one of said elements and adapted to retain said elements in engagement only when a pipe is interposed between said sections.

4. An annular plate for inclosing pipes or the like, comprising similar sections; complementary lugs and recesses on said sections adapted to loosely intergage when the latter are properly assembled; and substantially straight spring members held in said sections transversely of the central opening of the plate and contacting with said lugs and adapted, only when pressed outwardly by the interposition of a pipe between said sections, to retain said lugs in said recesses.

5. An annular plate for inclosing pipes or the like, comprising two similar sections formed with flanges on their inner edges; complementary lugs and recesses on said flanges adapted to loosely intergage when said sections are properly assembled; and substantially straight spring members secured at one end to said flanges and lying transversely of the central opening in the plate, the free ends of said members extending into proximity to the recesses in said flanges, and said springs being adapted, when their central portions are pressed outwardly by the interposition of a pipe between said sections, to retain said lugs in said recesses.

Signed by me this 1st day of March, 1909.

HENRY J. ROBINSON.

Attested by:
ANNA L. GILL,
JNO. F. OBERLIN.